Orica Australia Pty Ltd

International Cyanide Management Code

Global Marine Supply Chain Recertification Audit Report – Summary Audit Report

April 2024

Submitted to:
International Cyanide Management Institute
1400 I Street, NW Suite 550
Washington, DC 20005
UNITED STATES OF AMERICA

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International Cyanide Management Code
Global Marine Supply Chain Recertification Audit Report – Summary Audit Report

Orica Australia Pty Ltd

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Approved by:	Lauren Sandon	24/10/2024	

WSP acknowledges that every project we work on takes place on First Peoples lands.
We recognise Aboriginal and Torres Strait Islander Peoples as the first scientists and engineers and pay our respects to Elders past and present.

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1 Introduction

1.1 Operational information

Name of Transportation Facility:	Orica Australia Pty Ltd – Global Marine Supply Chain
Name of Facility Owner:	Not Applicable
Name of Facility Operator:	Orica Australia Pty Ltd
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2 Cyanide transportation

2.1 Orica Australia Pty Ltd

Orica is an Australian-owned, publicly listed company with global operations. Orica is managed as discrete business units that produce a wide variety of products and services. The Mining Chemicals unit is based in Australia and exports products to Asia, Africa and the Americas, as well as supplying the local Australian industry. The unit is main product is cyanide, which is manufactured at Orica's Yarwun cyanide production facility (Yarwun Facility) in Queensland, Australia. Orica Mining Chemicals is the world's second largest producer of cyanide.

2.2 Yarwun Production Facility

Orica's Yarwun Facility, which is located approximately eight kilometres (km) by road from Gladstone, Queensland, commenced operations in 1989 and is engaged in the manufacture of cyanide (both solid and liquid forms), ammonium nitrate, nitric acid, chlorine, sodium hydroxide, sodium hypochlorite, hydrochloric acid and expanded polystyrene balls.

Solid cyanide is packaged in either sparge isotainers, which have a maximum gross weight of 26 tonnes, or IBCs, which in turn, are packed into shipping containers – Twenty-foot equivalent units (TEUs). A maximum of 20 Intermediate Bulk Containers (IBCs) can be packed into a single TEU with a maximum gross weight of 28 tonnes. Liquid cyanide is packaged into isotainers with a maximum gross weight of 26 tonnes.

Cyanide manufactured at the Yarwun Facility is used in gold mining operations.

Orica's Yarwun Facility was re-certified as being in full compliance with the Code on 16 June 2021. Orica's Yarwun Facility is not part of the scope of this audit.

2.3 Orica Australia Supply Chain

The Australian Supply Chain covers the transportation of solution cyanide and solid cyanide from the manufacturing facility in Yarwun, Australia, by road and rail direct to its end point users within Australia, to the Ports of Brisbane, Gladstone, Alma and Melbourne and storage within the Toll Customised Solutions production facility.

Orica's Australian Supply Chain was re-certified as being in full compliance with the Code in April 2023. The Australian Supply Chain is not part of the scope of this audit.

2.4 Global Marine Supply Chain

The Global Marine Supply Chain is a consolidation of all marine carriers and ports used by Orica to distribute their cyanide from Australia to their global customers. The Global Marine Supply Chain will form the marine link between the certified Australia Supply Chain (2.3 Orica Australia Supply Chain) and the certified supply chain or certified transporter relevant to the customer site.

Orica Global Marine Supply Chain		October 2024
Name of Facility	Signature of Lead Auditor	Date

2.4.1 Audit scope

The scope of Orica's Global Marine Supply Chain covers the following with the new carriers and ports highlighted:

Carriers:

- Australia National Line (ANL)
- **COSCO (Active)**
- **Evergreen (Not Active – Prospect)**
- Hamburg Süd
- Maersk
- Mediterranean Shipping Company (MSC)
- Navierra Ultranav Transmares (Transmares)
- **Neptune Pacific Direct Line (NPDL) (Not Active – Prospect)**
- Ocean Network Express (ONE)
- **PT Temas Shipping (Active)**
- Orient Overseas Container Line (OOCL)
- Pacific International Lines (PIL) (formerly Pacific Asia Express (PAE))
- **Sinotrans Container Lines (SNL) (Active)**
- Swire
- **Tanto Intim Line (Active)**
- Toll Shipping
- U&D Ocean Shipping Co. Ltd
- Langeoog, MLB Manfred

Ports:

- Port of Abidjan, Côte D'ivoire
- **Port of Ad Dammam, Saudi Arabia**
- Port of Auckland, New Zealand
- Port of Beira, Mozambique
- Port of Belawan, Indonesia
- **Port of Bitung, Indonesia (Active)**
- Port of Brisbane, Australia
- Port of Buenaventura, Colombia
- Port of Buenos Aires, Argentina
- Port of Burnie, Australia
- Port of Busan, South Korea
- Port of Lazaro Cardenas, Mexico
- Port of Lihir Island, Lihir
- Port of Lyttelton, New Zealand
- Port of Lae, Papua New Guinea
- Port of Laem Chabang, Thailand
- **Port of Manzanillo, Mexico (Transshipment Port)**
- Port of Melbourne, Australia
- Port of Mersin, Turkey
- Port of Monrovia, Liberia
- Port of Port Moresby, Papua New Guinea
- **Port of Nhava Sheva, India (Active - started April 2024)**

- Port of Callao, Peru
- Port of Cartagena, Colombia
- Port of Chalmers (Otago), New Zealand
- Port of Conakry, Guinea
- Port of Corinto, Nicaragua
- **Port of Da Nang, Vietnam (Active)**
- Port of Dakar, Senegal
- Port of Dar Es Salaam, Tanzania
- **Port of Fremantle, Australia (Not Active- prospective)**
- Port of Gladstone, Australia
- Port of Guaymas, Mexico
- **Port of Haiphong, Vietnam (Active)**
- **Port of Ho Chi Minh City, Vietnam (Active)**
- Port of Honiara, Solomon Islands
- Port of Izmir, Turkey
- Port of Jakarta, Indonesia
- **Port of Ningbo, China (Not Active- prospective)**
- **Port of Palu, Indonesia**
- Port of Puerto Angamos, Chile
- Port of Puerto Cortes, Honduras
- Port of Puerto Deseado, Argentina
- Port of Puntas Arenas, Chile
- Port of Rockhampton (Formerly Port of Alma), Australia
- Port of Santos, Brazil
- Port of Shanghai, China
- Port of Sihanoukville, Cambodia
- **Port of Singapore, Singapore (Transshipment Port)**
- Port of Surabaya, Indonesia
- Port of Takoradi, Ghana
- **Port of Tanjung Pelepas, Malaysia (Transshipment Port)**
- Port of Tauranga, New Zealand
- Port of Tema, Ghana
- **Port of Townsville, Australia (Not Active- prospective)**
- Port of Walvis Bay, Namibia

2.4.2 Carriers

2.4.2.1 Australia National Line (ANL)

Headquartered in Melbourne, Australia and with regional offices and agents around the globe, ANL provides an international cargo shipping service. ANL was originally established by the Australian government and became part of the CMA CGM Group in 1998. The CMA CGM Group operates on more than 200 shipping routes with over 530 vessels, calling at 420 ports in 160 countries, and employs 110000 staff in 755 agencies and offices around the world.

ANL offers shipping services to all major Oceania destinations, with coverage throughout Asia, Australia, New Zealand, the Pacific Islands, Indian Subcontinent and North America.

2.4.2.2 COSCO

Founded in 2016 through the merger of COSCO and China Shipping container line businesses, COSCO SHIPPING Lines is Headquartered in Shanghai and boasts a vast network with:

- 28 departments in its Shanghai headquarters
- 9 domestic branches across China
- 9 overseas branches spread worldwide
- Over 400 marketing and service outlets globally
- A workforce of 17,000, including over 5,300 staff overseas
- Fleet of 382 container vessels with a total capacity of 2.1 million TEUs (twenty-foot equivalent units)
- Combined fleet (with subsidiary) of 503 vessels reaching 3.1 million TEUs, making it the industry leader in shipping capacity.

COSCO SHIPPING Lines' vessels call at a staggering 602 ports across 144 countries and regions, demonstrating its extensive global reach.

2.4.2.3 Evergreen

Evergreen Line, a subsidiary of Evergreen Group, has grown from a single 15-year-old cargo ship in 1968 to a global leader in container shipping. Evergreen Line has:

- A modern fleet of over 200 container ships.
- Extensive global network reaching five continents.
- Top ranking in terms of fleet capacity, cargo volume, and shipbuilding innovation.

Evergreen Line, established in 2007, is the unified brand for container shipping services offered by the Evergreen Group. It combines the strengths of several companies, including Evergreen Marine Corp. (Taiwan) Ltd. and subsidiaries across Italy, UK, Hong Kong, and Singapore. In 2021, Evergreen Marine (Asia) joined the alliance. Evergreen Line has a modern fleet exceeding 1.5 million TEU capacity, serving a vast network of trade routes worldwide.

2.4.2.4 Hamburg Süd

Maersk has initiated the process of acquiring Hamburg Süd. Until the merger is fully completed, both companies will continue to operate independently, adhering to their respective policies and guidelines. As such, the policies and other aspects of Hamburg Süd have been taken into account for this due diligence. Hamburg Süd's roots lie in maritime transport since the company's foundation in 1871. With Maersk's acquisition Hamburg can offer stand-alone services on many trades independently of partners. They have a commitment to sustainable shipping and have a 2040 net-zero greenhouse gas emissions target.

Hamburg Süd checks every transportation request for dangerous goods individually. They have a regional team of experts who plan and follow every transportation under the direction of a goods officer from acceptance of an order until the cargo reaches its destination.

Hamburg Süd's Integrated Management System encompasses the issues of environmental protection and quality. The quality standard International Standards Organization (ISO) 9001 was implemented with the International Safety Management (ISM) Code in 1996, and the environmental norm ISO 14001 was added in 2000.

2.4.2.5 Sinotrans Container Lines

Sinotrans Limited, commonly known as Sinotrans, was established on November 20, 2002, and went public on the Hong Kong Stock Exchange in 2003. As a key subsidiary and the sole logistics platform of China Merchants Group, Sinotrans Limited is dedicated to creating a top-tier business platform that delivers smart logistics solutions.

2.4.2.6 Tanto Intim Line

Tanto is a family-owned company that was established in 1971. Tanto has more than 50,000 containers of different sizes and an average age of less than five years, as well as a fleet of over 50 container vessels with a total capacity of 26.731 twenty-foot equivalent units (TEUs). With their head office located in Surabaya, Java, Tanto has 29 offices across Indonesia. Tanto has 29 service branches and ships to 32 ports throughout Indonesia. They are International Standards Organization (ISO) 9001:2015 (quality assurance) certified as well as 45001:2018 (occupational health and safety management).

2.4.2.7 Maersk

Maersk, headquartered in Copenhagen, Denmark, operates a fleet of 700+ of container vessels with worldwide shipping coverage. Maersk operates a container booking and tracking system called the Global Customer Service System (GCSS). This system is the management tool for the proper stowage and handling of dangerous goods cargo and allows Maersk to have 30 million touchpoints per year with over 59,000 customers.

Maersk's vessels are registered by the Lloyd's Register Group, which provides classification and certification of ships, and inspects and approves important components and accessories. Maersk also has current International Standards Organization (ISO) 14001:2015 for Environmental management systems and certificates for its vessels under the International Ship and Port Facility Security (ISPS) Code developed by the IMO.

2.4.2.8 Mediterranean Shipping Company (MSC)

Headquartered in Geneva, Switzerland, MSC is engaged in worldwide container transport, operating 300 global routes to 520 ports. MSC is a privately owned global organisation with a network of over 650 offices in 155 countries, employing over 200 000 individuals and operating approximately 800 vessels with the capacity to handle the equivalent capacity of 22.5 million Twenty-foot Equivalent Units (TEUs) annually.

In 2023, MSC became the world's largest shipping line, adding over a million TEUs to its capacity. The company's fleet expansion included 14 "megamax" vessels and 26 neo-panamax ships, contributing to a 22% growth in their fleet.

MSC has set up dangerous goods cargo management centres that manage the stowage of hazardous cargo worldwide through their Acceptation Policy headquartered in Antwerp.

2.4.2.9 Navierra Ultranav Transmares

Transmares was founded in 1969, is in Chile and is now a shipping division of ULTRANAV CHILE. They are dedicated to marine traffic in containers with direct cabotage clients and indirect clients for international cargoes through feedering services to transoceanic container lines. The maritime service offered to domestic cargoes is comprehensive as it may include the whole transportation chain if required. Transmares ship's cargo to the southernmost destinations of Chile through their South Feeder Service. The service is essential in connecting cargoes that arrive from abroad at ports located in the central or northern regions of the country to southern ports. Export cargoes are also moved from southern ports to central area terminals so that they can be transhipped to international container vessels.

Transmares has containers of different types including dry containers of 20', 40', 45', refers containers, flat racks, and tank trainers. Trucking partners perform local inland transportation between cargo origins and destinations and their corresponding loading and discharge points.

2.4.2.10 Neptune Pacific Direct Line (NPDL)

Neptune Pacific Direct Line (NPDL), established in 2020, is a South Pacific specialist in end-to-end supply chain solutions. Headquartered in Auckland, New Zealand, NPDL offers liner shipping and a variety of logistical services across 16 countries and 22 ports, including Fiji, Samoa, Tonga, Tahiti, and many others. Formed through the merger of Neptune Pacific Line and Pacific Direct Line, NPDL combines expertise and a dedicated shipping network to connect the South Pacific with the rest of the globe. Their services encompass not only shipping, but also extend to shipping agencies, customs clearance, warehousing, and even waste removal. Notably, NPDL accepts various categories of dangerous goods for transport, though with surcharges and exclusions.

2.4.2.11 Ocean Network Express (ONE)

ONE was established on 7 July 2017 by the merging of three international shipping companies, these were K Line Kawasaki Australia Pty Ltd (K Line), Mitsui OSK Lines (MOL) and Nippon Yusen Kaisha (NYK Line). ONE's regional headquarters have been established in Hong Kong, Singapore, UK, USA and Brazil and services commenced in April 2018.

As a result of the integration, ONE's fleet size has a twenty-foot equivalent units (TEU) capacity of 1,800,000, making ONE the seventh largest container carrier in the world. ONE has over 244 port calls around the world and does approximately 165 service loops weekly.

2.4.2.12 PT Temas Shipping

PT Temas Shipping, previously known as PT Pelayaran Tirtamas Express, is a subsidiary of PT TEMAS Tbk and specializes in container shipping. The company was founded on June 12, 1993, initially focusing on ship charter services. At present, PT Temas Shipping operates 45 vessels, connecting more than 62 ports within our national network. There container vessels, certified by the International Safety Management (ISM), ensure operations are safe, efficient, and pollution-free in compliance with international rules and standard practices, thereby establishing our reputation as a reliable container shipping line.

2.4.2.13 Orient Overseas Container Line (OOCL)

Orient Overseas Container Line, also known as OOCL, along with OOCL (Europe) Limited, are distinct entities providing transportation services. Both are fully owned subsidiaries of Orient Overseas (International) Limited (OOIL). OOCL stands as one of the globe's most extensive integrated international transport and logistics firms. It leads the industry in employing information technology, digitalisation, and e-commerce to oversee the entire cargo transportation process. OOCL's fleet comprises some of the world's youngest, largest, most fuel-efficient, and eco-friendly vessels. These ships transport cargo across numerous trade routes, serving as a crucial connector in global trade.

OOCL has specialised Dangerous Goods Teams in the Americas, Europe, the Middle East, and Asia Pacific. They ensure compliance with legal requirements and safe transport by adhering to stowage and segregation rules. OOCL offers "DG Smart," an internet-based portal for efficient DG transportation information management. It serves as a multi-carrier platform for data management and promotes low-cost DG knowledge-sharing.

2.4.2.14 Pacific International Lines (PIL) (formerly Pacific Asia Express (PAE))

In July 2023, Pacific Asia Express underwent a rebranding process and emerged as Pacific International Lines (PIL) Australia, aiming to unify the network under a single brand identity. PIL Australia positions itself as an ideal partner for connecting customers to markets in Oceania and beyond.

PIL offers container liner services to major ports worldwide, with a strong presence in Asia, Africa, Latin America, the Middle East, Oceania, and the Indian Subcontinent. They focus on safe and efficient cargo transportation, catering to special cargo needs such as oversized or overweight items that do not fit standard containers. PIL's fleet, built to their precise specifications for safety, includes vessels equipped for out-of-gauge and un-containerised cargo. They also specialise in handling dangerous cargo, adhering strictly to the IMDG Code for safety and legal compliance. PIL's service network is extensive, and they provide innovative solutions like paperless bill of lading and cyber security focus, ensuring they meet the evolving needs of global trade and commerce.

2.4.2.15 Swire

Swire Shipping Pty. Ltd., formally known as The China Navigation Company, a wholly owned subsidiary of John Swire & Sons Limited, is headquartered in Singapore and operates globally with offices in 17 countries and a team of over 2,500 seafaring and onshore personnel. In October 2020, the company launched Swire Projects, a division dedicated to providing specialised shipping services to the energy, renewable, and infrastructure sectors. In July 2021, Swire Shipping expanded its service offerings to include landside logistics services such as customs clearance, inland transportation services, and cargo management solutions, thereby complementing its existing liner shipping services.

The company employs over 2,900 onshore and seafaring staff globally and operates in more than 90 countries. Swire Shipping operates 14 liner services, linking more than 400 ports both in the Asia-Pacific region and worldwide.

2.4.2.16 Toll

On 1 September 2021 the Toll Global Express business was sold to Allegro Funds. They now have dual headquarters in Melbourne and Singapore and retain the Toll brand. Toll has 20,000 team members and has been operating for more than 130 years. They have more than 20,000 customers worldwide with 500 sites in 26 markets, and a forwarding network spanning 150 countries.

Toll offers transport via ocean, air, road, and rail. They have a network of sites throughout the world to give them a global reach across and have broken them into three categories – Asia Pacific, EMEA (Europe, Middle East and Africas), and Americas. Toll has 2 million square metres of warehouse space and 13000 fleet and equipment in Asia Pacific alone. They offer services in Transportation, Supply Chain & Logistics, and Industries and aim to reach net-zero emissions by 2050. Toll can execute customers' direct contracts with shipping lines as they cover bookings/pre-bookings, shipment monitoring, and pre/on-carriage management, even if the customers directly nominate the carriers Services that Toll offers include:

- Cross docking for full and partial loads
- Warehousing
- Distribution

- Pick and pack services
- Multimodal transport services including road, air, and sea.

2.4.2.17 U&D Ocean Shipping Co. Ltd

U&D Ocean Shipping Co is a private Hong Kong company established in November 2020. The company was listed as the owner of the general cargo vessel "DRACO FAITH" in December 2020.

The Draco Faith (IMO number 9574377, and Maritime Mobile Service Identity (MMSI) 355760000) has a carrying capacity of 9,023 t and/or up to 630 Twenty-foot Equivalent Units (TEU). The vessel was built by the Dongfeng Ship Industry, Chongqing, China.

The Draco Faith is considered a generalised dry cargo carrying vessel, equipped with container carrying capacity, it was built in 2010. The Draco Faith sails under the flag of Panama with the classifications of CSA5/5, general dry cargo, ice class B-CSM, MCC. The dimensions of the vessel are 122 m long, and 19.8 m wide. The vessel has a total hold/tank capacity of 13,350 CBM.

2.4.2.18 Langeoog, MLB Manfred

Founded in 1979, MLB Manfred is responsible for the commercial employment and chartering of the Lauterjung Fleet as well as affiliate owners. The operations team represents the connecting link between owners, vessels, charterers, and port agencies. MLB Manfred has global branch offices in Bilbao, Houston, and Dubai. MLB Manfred currently operates 21 vessels of which are Coasters, MPPs and Bulk Carriers. MLB Manfred is part of Reederei M. Lauterjung Shipping Group.

The Langeoog, bearing IMO number 9506136 was built in 2013. The Langeoog operates under the flag of Antigua and Barbuda and is owned by MLB Manfred. The overall length and width of the vessel is approximately 108 m by 17 m respectively. The capacity of the ship is 7.310 m3.

The vessel is a multi-purpose cargo carrier fitted with tween decks and grain bulkheads, there are two hydraulic single boom cranes (rated at 60 t at 19m and 45 t at 26m).

2.4.3 Ports

2.4.3.1 The Port of Abidjan, Côte D'Ivoire

The port of Abidjan is located on the Côte d'Ivoire (Ivory Coast) in West Africa and is considered the most important port in West Africa and the second most important in Africa. The port of Abidjan is located on the Ébrié Lagoon and is connected to the Gulf of Guinea and Atlantic Ocean by the Vridi Plage sandbar, a buoyed channel 2.8 km in length and 13.0 m deep. Abidjan is the economical capital and main port of Côte d'Ivoire, with a central location and well-developed infrastructure, it is a major point for transhipments into West and Central Africa over the Côte d'Ivoire's network of rail and road systems.

The port of Abidjan has a total quay length of up to 6 km and can accommodate vessels up to 260 m in length. The port provides around ~408,000 m2 of open storage and ~144 000 m^2 of covered warehouses and sheds for general cargo, timber, cereals, fruits, petroleum products and containers. The port of Abidjan has 34 berths, 3 berths specialise in container-handling, and one berth is dedicated to roll-on/roll-off cargoes.

On October 5, 2020, Bolloré Ports, APN Terminals, and the Côte d'Ivoire government initiated the construction of the Côte d'Ivoire Terminal, the second container terminal at the port of Abidjan, which was completed in October 2022. The new terminal at the Port of Abidjan, built with an investment of approximately 900 million euro, spans 37.5 hectares, has a 1100-metre-long quay, a 16-metre draft, and can handle 1.5 million twenty-foot equivalent units (TEUs) annually, featuring innovations like automated gates and an online truck appointment system. At the end of 2022, Bolloré Africa Logistics was rebranded as Africa Global Logistics (AGL) following its acquisition by MSC.

The port of Abidjan is certified with International Standards Organization (ISO) 9001:2008 (quality), ISO 14001:2004 (environment), and OHSAS 18001:2007 (health and security).

2.4.3.2 The Port of Ad Dammam, Saudi Arabia

Also known as King Abdul Aziz Port, Dammam Port is the second most active commercial port in Saudi Arabia. It is situated on the northeastern coast of Saudi Arabia, about 5 nautical miles offshore and roughly 50 kilometres south of Ras Tanura.

The port comprises several facilities including the Dammam Container Terminal with 4 berths, a Bulk Cement Berth, a Bulk Grain Terminal with 3 berths equipped with mobile machinery for grain handling, an Explosive Berth, and a Cold Store Terminal. In total, there are 39 cargo handling berths and a small craft harbour. The port also has a facility dedicated to discharging edible oils.

Spanning over 19,000 hectares, Dammam Port manages approximately 20.5 million tons of cargo and receives about 2,100 vessels each year. The port primarily serves cargo vessels, which account for about 50% of the traffic, and fishing vessels, which make up around 14% of the traffic. The port can accommodate vessels up to 398 metres in length, with a maximum draught of 14 metres and a maximum deadweight of 196,000 tons.

The container terminals at King Abdulaziz Port in Dammam are undergoing a transformation under a Build-Operate-Transfer (BOT) concession agreement with Saudi Global Ports (SGP), valued at over 7 billion riyals. The project is a significant stride towards achieving the objectives of the Saudi Vision 2030-inspired roadmap, which focuses on enhancing port operations and modernising infrastructure to foster a thriving and sustainable maritime ecosystem. It aligns with the aspirations of the National Transport and Logistics Strategy (NTLS) to establish the Kingdom as a global logistics hub connecting three major continents and is anticipated to increase the port's total capacity by 120% to 7.5 million twenty-foot equivalent units (TEUs).

The year 2022 marked a significant milestone for King Abdulaziz Port in Dammam and its operator, SGP, with record-breaking annual performances across various metrics, resulting in the port's highest container throughput in its history, exceeding two million TEUs.

2.4.3.3 The Port of Auckland, New Zealand

The port of Auckland, New Zealand (NZAKL), also known as Waitemata Harbour, is located on the east coast of North Island. The port is divided into two areas, one located on the east coast near Auckland's central business district, and the other on the west coast in Onehunga.

The port is configured into two main terminals, the Multi-Purpose Bledisloe Terminal and the Fergusson Container Terminal. Ports of Auckland Limited (POAL) manages the 17 berths and eight wharfs, with cargo-handling services provided by third-party stevedoring companies. The Port of Auckland has four parallel rail lines. Each of these lines is 500 metres long and can hold up to 128 rail wagons simultaneously for the loading and unloading of sea containers.

2.4.3.4 The Port of Beira, Mozambique

The port of Beira (MZBEW) lies on the northern shores of the Mozambique Channel of the Indian Ocean and is the second largest port in Mozambique. The port is accessed via the Macuti Channel (actual minimum depth of 8 m) which remains open throughout day and night (24 hours).

The port of Beira has the following features:

- Container and multi-purpose terminals have 645 m long berths with depths of 12 m and are supported by 36 m gantry cranes.
- The terminal provides two covered sheds (11,000 m2) with the capacity of 100,000 twenty-foot equivalent units (TEUs) of containerised cargo per year.
- The port has a 350, 000 sq m2 container yard with 144 electric reefer points and can accommodate 400,000 TEUs and International Maritime Dangerous Goods (IMDG) dangerous goods cargoes.
- The port has 11 berths along the quays length of 1,994 m with one reverse berth reserved for fishing vessels.
- General cargo terminal has the capacity to handle 4 million metric tons of cargo annually and has a 670-metre wharf with four berthing positions with 10 metres depth each.
- The general cargo storage area consists of five warehouses covering 15,000 sq metre and 12,000 sq metre open paved area, and additional 175,000 sq metres of storage area.

The port of Beira operates under the management and authority of Cornelder de Mozambique and is a state member of International Maritime Organization (IMO) since 1979 and International Convention for the Safety of Life at Sea (SOLAS) signatory nation since 1990.

2.4.3.5 The Port of Belawan, Indonesia

The port of Belawan is located on the Deli River in the east coast of the province of North Sumatera and Medan, Indonesia. Belawan port serves as the primary maritime entry and exit point for the import and export of diverse industrial goods on Sumatra island. It is equipped to handle all types of containers, RoRo, as well as bulk and break-bulk cargo.

Belawan port's bulk handling features encompass three terminal facilities specifically for fertiliser, cement, and copra residue. Each facility spans 100 m and has a handling capacity ranging from 500,000 to 985,000 tons per year for these commodities. The port houses 25 warehouses, collectively covering an area of 61,474 square metres. Additionally, the port comprises 23 yards spanning a total area of 64,386.96 m^2 and 7 container yards with a cumulative area of 262,490 m^2. In 2023 agreements were finalised to expand capacity to 1.4 million TEUs at the Belawan Container Terminal.

- Stevedoring services, provided by 36 Stevedoring Companies, include, but are not limited to:
- Pilotage, towage, cargo and goods, warehouse, open storage, container yard, operation and rental of handling equipment.

Stevedoring services in delivering of the cargos to the designated location.

The port is under the administration of PT. Pelindo (Persoro) Reginal l Northern Sumatera.

2.4.3.6 The Port of Bitung, Indonesia

The Bitung Port, situated in Bitung City approximately 40 km east of Manado City, comprises two ports managed by Pelindo IV North Sulawesi: a conventional port and a container port. The conventional port includes an LCT berth, a passenger berth, and a container berth, while the container port is specifically designed for container handling operations.

The majority of goods supplied to North Sulawesi are transported by sea from Makassar and Surabaya via the Conventional Port of Bitung. These goods are then distributed to Manado City, other districts, and islands. The container traffic, measured in Twenty-Foot Equivalent Units (TEUs), is 1,447 for the Conventional Port and 277 for the Container Port.

Stevedoring activities are coordinated by authorised third-party companies in collaboration with the Labour Union Association (TKBM), which is overseen by the Port Authority (KSOP) Office. Owners or shippers also have the option to unload their own cargo by directly liaising with the Labour Union Association.

These entities offer comprehensive or semi-comprehensive services, which include arranging labour and handling equipment, unloading goods at the port, and directly delivering the goods to the customer's warehouses.

The managing authority is PT. Pelabuhan Indonesia and IV (Persero) Cabang Pelabuhan Bitung.

2.4.3.7 The Port of Brisbane, Australia

The port of Brisbane (AUBNE) is one of Australia's fastest growing container ports and the state's largest multi-cargo port. Located at the mouth of the Brisbane River, the port of Brisbane is managed and developed by PBPL under a 99-year lease from the Queensland Government. PBPL is responsible for developing and maintaining port infrastructure and facilities, and for the provision of key services including maintaining navigable access to the port for commercial shipping, and the operation of the Brisbane Multimodal Terminal (BMT). The BMT is the interface between rail, road, and the container terminals at the port of Brisbane.

Between the port of Brisbane and its upriver facilities there are a total of 28 operating berths and more than 8,200 m of quayline. The port of Brisbane has nine dedicated container berths, which are leased and operated by three stevedores – Patrick, DP World and Brisbane Container Terminals – all of which use automated container.

2.4.3.8 The Port of Buenaventura, Colombia

The port of Buenaventura (COBUN) is the main port of Colombia in the Pacific Ocean and one of the biggest ports in South America. The nearest city to the port is Buenaventura, located approximately 5 km to the southeast.

The Sociedad Portuaria Regional de Buenaventura S.A (Regional port Society of Buenaventura; SPRB) is the port authority (port Authority) for the port of Buenaventura.

The port of Buenaventura has specialised infrastructure for container handling, grain, bulk, and multipurpose cargo. It has 14 berths, 12 operated by Society of Buenaventura and 2 under another concession. The port is a multimodal transport port with an access channel length of 31.5 km (17 Nautical miles). The outside bay depth is 9 m at low tide (Zero Equal) and the inside bay depth is 13 m at low tide (equal zero).

The port of Buenaventura has a specialised container terminal (Buenaventura SA – TECSA). Key handling equipment at the port includes two 50 million tonne (MT) and two 60 MT dockside cranes, thirteen container gantries (40 to 62 MT) 3 on Neo-Panamax and 10 Post-Panamax rail mounted, three multipurpose mobile cranes (100 and 104 MT), 16 reach stackers (40 and 30 MT), and 10 forklifts with different capacities for handling containers.

The container facilities at the port consists of a 440 m long quay, which allows for berthing of two large vessels simultaneously or a Panama Vessel, with a draft depth of approximately 14 m during minimal tide. The port's container facilities are equipped to attend up to 260,000 twenty-foot equivalent units (TEUs) per year. The container facilities at the port have approximately 19 hectares (ha) for container storage with a capacity to store up to 8,000 TEU simultaneously.

Stevedoring operations at the port of Buenaventura are conducted by private companies and are classified and regulated by the national government.

2.4.3.9 The Port of Buenos Aires, Argentina

The port of Buenos Aires is in Retiro ward, Argentina. It is operated by the General ports Administration, a state enterprise, overseen by the Undersecretary for Ports and Waterways, and it is the leading transhipment point for foreign trade in Argentina.

The New Port Container & Multi-purpose Terminal Operators include Terminales Río de la Plata (TRP) which operates Terminals 1, 2, and 3 and has 522,300 twenty-foot equivalent units (TEUs), Terminal 4 (AMP) S.A with 159,800 TEUs and BACTSSA (terminal 5, Hutchinson) which is 205,900 TEU.

The port facility comprises of 16 berthing positions for vessel operations, with 4805 metres quay (Logistics Cluster, 2024). The terminal handles deep-sea vessels from Europe, Asia, and North America, as well as feeders to both the East and West Coast of South America and barges upriver to Rosario.

TRP has International Standards Organization (ISO) 28000 Security Management System for the Supply Chain, ISO 14001 Environmental Management System, ISO 9001 Quality Management System, ISO 50001 Energy Management System, and OHSAS 18001 Occupational Health and Safety Management System.

2.4.3.10 The Port of Burnie, Australia

The Port of Burnie is located on the western shore of Emu Bay, Tasmania. The port services Tasmania’s major West Coast mines and handles most types of bulk shipping requirements including, minerals, fuels, woodchips and logs, as well as containerised consumables and heavy-lift project cargo. There are four berths and several storage facilities available.

Owned and operated by the Tasmanian ports Corporation Pty Ltd (Tasports), the Port of Burnie is one of Tasmania’s key deep-water ports and the State’s largest general cargo port. Tasports is a registered, private company fully owned by the Tasmanian Government. Each year more than five million tonnes of general freight and more than 50% of Tasmania’s containerised freight are transited through the port.

Marine and Safety Tasmania (MAST) and the Crown engage Tasports, under a Deed of Agreement, to perform specific functions within primary and secondary port areas under the *Marine and Safety Authority Act 1997*, *Marine and Safety (Pilotage and Navigation) Regulations 2017*, and *Pollution Waters by Oil and Noxious Substances Act 1987*, including provision of pilotage services, regulation enforcement in pilotage areas, maintenance of navigation aids, maintenance of a communications system, provision of emergency response, and provision of a response to marine based pollution.

2.4.3.11 The Port of Busan, South Korea

The port of Busan is located at the mouth of the Naktong River in South Korea. It is the fifth busiest container port in the world and the largest transhipment port in north-east Asia. The port of Busan is subdivided into Busan North Port, Jaseongdae Container Terminal, Busan New Port, Southport, Gamcheon Port, Dadaepo Port, and Busan International Passenger Terminal.

The Busan port Authority (BPA), established in 2004, is responsible for developing, managing, and operating the port of Busan. The BPA’s jurisdiction extends to Gamcheon port, which supplements the port of Busan, and Busan New port on Gaduk Island.

The port of Busan is a vital gateway for Korea, connecting the country to the Pacific Ocean and Asia. It is Korea’s main port, handling 40% of the country’s overseas cargo and 80% of its container cargo. Approximately 130 international vessels enter the port daily.

Annual figures from 2022 show that the port of Busan handled more than 22 million Twenty-foot Equivalent Units (TEUs) in a 12-month period.

There are four modern ports, Port, South Port, Gamcheon and Dadaepo Port, an international passenger terminal and six container terminals allowing for 91 million tonnes per annum.

2.4.3.12 The Port of Callao, Peru

The port of Callao is Peru's main commercial seaport and located 15 kilometres from the country's capital Lima, the managing company is DP World Callao.

There are 29 berths for exports and imports including maize, rice, wheat, fuel, sugar, grain, solid fuel, motor vehicles and spare parts, vegetable oils, cereals, iron and steel, dried chemicals, liquid chemicals, gas and liquefied products, wheat flour and passengers.

During 2020, the main companies that generated container traffic were the shipping lines Hapag-Lloyd, Compagnie Maritime d'Affrètement and Compagnie Générale Maritime (CMA CGM), China Shipping Container Line, and Evergreen. The North Terminal, operated by APM terminals, handles various goods and is undergoing expansion. The South Terminal, operated by DP World Callao, deals with containers.

2.4.3.13 The Port of Cartagena, Colombia

The port of Cartagena lies on the northern shores of Cartagena Bay on the northern Caribbean shores of Colombia in South America. The port is strategically placed to capture sea traffic through the Panama Canal's transoceanic shipping lanes that connect the Atlantic and Pacific Ocean's Sea traffic and other traffic around the Caribbean Sea.

The Sociedad Portuaria Regional de Cartagena S.A. is the port Authority for the port of Cartagena. The port of Cartagena offers large scale maritime, cargo (container, refrigerated, automobile, loose and dangerous goods), logistic and cruise ship services and is capable of handling 4 million twenty-foot equivalent units (TEUs) per year, with plans to expand to 5.2 million TEUs capacity.

The Port of Cartagena Group is the main logistics platform in the Caribbean. The principal container management port incorporates two container terminals, Sociedad Portuaria Regional Cartagena (SPRC) and Contecar. The SPRC terminal has an annual capacity of 1.8 million TEUs and handles ships up to 14,000 TEUs. It has a dock depth of 15.5 m, contains one 700 m longitudinal pier for ships up to 150,000 deadweight tonnes (DWT) and two jetties (186 m and 202 m) for feeder ships. As a strategic connection centre for shipping lines, the SPRC terminal can receive five Super Post Panamax ships simultaneously. The SPRC terminal utilises up to 6 ship-to-shore gantry cranes with a 22-container span and twinlift capacity for simultaneous unloading of two 20 ft containers, The storage yard area is approximately 15 ha, with over 28,000 storage cells for containers, stacked up to 6 high.

The Contecar terminal has an annual capacity of approximately 3.2 million TEUs and handles ships up to 14,000 TEUs. It has a dock depth of 16.5 m, contains one 1,000 m longitudinal pier. The Contecar terminal utilises 13 STS gantry cranes with a 22-container span and twinlift capacity for simultaneous unloading of two 20 ft containers. The storage yard area is approximately 40 hectares with 56, 000 container storge cells stacked up to 6 high.

2.4.3.14 The Port of Chalmers (Otago), New Zealand

The Port of Chalmers is located inside the greater Otago Harbour region and is owned by the Otago Regional Council. Situated on the lower east coast of the South Island of New Zealand, port Otago operates two wharf systems – port of Chalmers and port of Dunedin – within the Otago Harbour.

The Otago Harbour is dredged to accommodate vessels with a maximum draught of 13.5 m from Taiaroa Head to port of Chalmers, where the container terminal is located. This enables the largest container ships in New Zealand trade to call at the port of Chalmers.

The Port of Chalmers has three berths, suitable for handling containerised, multipurpose, and conventional vessels. Berthing flexibility is guaranteed by a swinging basin dredged to 13.5 m, with a turning diameter of 487 m. Fairway to port Chalmers Basin declared at 13.5 m (at chart Datum). The port of Chalmers Container Facility covers 17.7 hectares and stores over 7,000 containers, over 38,000 m^2 of covered warehousing is also available.

2.4.3.15 The Port of Corinto, Nicaragua

The Port of Corinto is in the province of Chinandega, on the western coast of Nicaragua, in the department of Chinandega, and is largest port in Nicaragua. The port is managed by the Empresa Portuaria Nacional (EPN). EPN has responsibility for six Nicaraguan ocean ports and seven lake ports. It is the country's main commercial port and is connected by highway to mainland Nicaragua year-round. The exterior channel is 146 m deep, 150 m wide, and 3.4 km long while the inner channel is 1335 m deep, 115 m wide, and 314 km long. The Port has a marginal concrete pier of 610 m long with terminal and liquid outer harbor and warehouse for storage of goods.

2.4.3.16 The Port of Conakry, Guinea

The port of Conakry is located on the South Coast of Guinea and is the main port of Guinea. The port has a 22-hectare container yard and container storage capacity of 7,150 twenty-foot equivalent units (TEUs). The theoretical annual capacity of the port of Conakry is 600,000 TEUs. The container terminal is jointly operated by Bolloré ports and the port Authority of Conakry. As of 2019, Port Authority of Conakry and the affiliated company of Albayrak Group of Istanbul agreed to privatise Port of Conakry. The port operates a continuous loading and unloading service and is linked to road and rail systems.

Guinea is a member of the International Maritime Organization (IMO) Member and the Abuja Memorandum of Understanding, and as such performs its port State obligations, supervises foreign ships that berth at Conakry, and promotes compliance with international conventions among Flag States through port State Control.

2.4.3.17 The Port of Da Nang, Vietnam

Situated at the southern end of a bay off the South China Sea in east-central Vietnam, Da Nang Port is 622 kilometres north-northeast of Saigon Port in Ho Chi Minh City. Enclosed to the east by the Tien Sa Peninsula and Cape Da Nang. The Da Nang port, one of Central Vietnam's largest ports, serves as a vital link between South and North Vietnam, spanning an area of approximately 300,000 m2.

The port is divided into three berth areas: Tien Sa-Son Tra, Tho Quang, and Lien Chieu. It can accommodate vessels up to 45,000 deadweight tonnage (DWT), with ongoing infrastructure enhancements aimed at increasing this capacity to 50,000 DWT. As a medium-sized, deep-water port, it plays a strategic role in South China Sea maritime trade.

The western bank of the Da Nang port is reserved for the Vietnamese Navy, while the eastern bank is used by commercial vessels. The entire Da Nang port is a natural harbor, with a channel depth reaching 13 metres at the mouth of the Han Giang River. It also features an oil depot connected to the Bay via an oil pipeline.

The channel depth at the Da Nang port varies between 10 and 17 metres, making it suitable for all types of container ships, bulk carriers, and liquid carriers. The port includes a 29,000 m2 warehouse and a 184,000 m2 open storage yard. It provides maritime connections from Central Vietnam to Thailand, Laos, and Singapore.

Its proximity to the Da Nang International Airport and the national railroad station provides easy access to the country's transportation networks and hinterland.

Vietnam National Shipping Lines is the managing company/Port Authority.

2.4.3.18 The Port of Dakar, Senegal

The port of Dakar is in the Republic of Senegal. Dakar is a deep seaport and is located at the intersection of the main sea routes serving the West African coast. The port is strategically placed, located at the most advanced point of the West African coast, and is at the intersection of carrier lines linking Europe to South America, and North America to South Africa. The international port represents 90% of Mali cargo transit.

The port is divided into two separate trading zones (North and South) separated by a fishing port. The container terminal in the North Zone of the port of Dakar covers an area of 24 ha. It has a linear quay of 700 m in length with three berths ranging from 12 to 13 m deep. Modern equipment is used for handling, including four quay cranes (including two post-panamax), four Gottwald cranes, 15 reach stackers and 400 refrigerator outlets. The port also has separate terminals for bulk goods and hydrocarbons.

The Senegalese government has established an independent entity to manage the port, namely the Société Nationale du Port Autonome de Dakar (SN-PAD) or Dakar Port Authority.

2.4.3.19 The Port of Dar es Salaam, Tanzania

The port of Dar es Salaam is located on the east coast of Africa and is the principal port of Tanzania. Dar es Salaam serves other countries such as Malawi, Zambia, Democratic Republic of Congo, Burundi, Rwanda, and Uganda. The port is strategically placed to serve as a freight linkage to and from East and Central Africa countries.

The port of Dar es Salaam has a rated capacity of 14.1 million dry cargo and 6.0 million bulk liquid cargo. The port has a total quay length of 2 km with eleven deep-water berths.

The Tanzania ports Authority (TPA) operates the port of Dar es Salaam. In January 2023, TPA took over the 2 container terminals being handled by the Tanzania International Container Terminal Services Ltd (TICTS). The container terminals have four berths totalling 725 m in length with a capacity to handle more than 660,000 twenty-foot equivalent units (TEUs) per year which includes many classes of Dangerous Goods cargo.

2.4.3.20 The Port of Fremantle, Australia

The port of Fremantle is located on the West Coast of Australia at the mouth of the Swan River and the edge of the Indian Ocean. The Fremantle Inner Harbour houses two container terminals, managed by DP World and Patrick. Both terminals are furnished with specialised handling equipment and cater to major container lines.

DP World Container Terminal:

- Berths: CT1 & CT2
- Wharf Height: 4.0 metres
- Berth Length: 646 metres
- Design Depth Alongside: 14.5 metres
- Total Area: 13.0 hectares
- Number of Container Ground Slots: 2,299
- Number of Reefer Outlets: 498
- Shed Space: 2,350 square metres
- Patrick Container Terminal:
- Berths: CT3 & CT4
- Wharf Height: 4.0 metres
- Berth Length: 646 metres
- Design Depth Alongside: 14.5 metres

- Total Area: 22 hectares
- Number of Container Ground Slots: 3,500
- Number of Reefer Outlets: 400
- Cranage: 4 x ZPMC post-panamax cranes.

East and Southeast Asia, including Japan, are the major trading regions for Fremantle, with the major exports by commodity being grain (wheat, malt, lupins, canola, oats, and barley), alumina, petroleum, and bauxite. Major imports are petroleum, fertilisers, caustic soda, cement clinker and sulphur.

2.4.3.21 The Port of Gladstone, Australia

The port of Gladstone is located approximately 525 km north of Brisbane in Queensland, Australia, and is the principal port in central Queensland. It is owned and managed by Gladstone ports Corporation (GPC), which is a statutory corporate body of the Government of Queensland and is charged with overseeing the commercial activities in the port, including the maintenance of the port infrastructure and provisioning of pilots. The port of Gladstone is Queensland’s largest multi-commodity port, handling over 30 different products. Major cargoes include coal, bauxite, alumina, aluminium and cement. The port has a total throughput of more than 98 million tonnes per annum (Mtpa).

The port of Gladstone has eight main wharf centres, comprising 20 wharves:

- RG Tanna Coal Terminal – four wharves owned and operated by GPC
- Barney Point Terminal – one wharf owned and operated by GPC
- Auckland Point Terminal – four wharves owned by GPC and operated by others
- Fisherman’s Landing – four wharves operated by multiple companies
- South Trees – two wharves operated by Queensland Alumina Limited (QAL)
- Boyne Wharf – one wharf operated by Boyne Smelters Limited (BSL)
- Curtis Island – three wharves operated by Liquefied Natural Gas (LNG) companies; Australia Pacific LNG (APLNG), Santos GLNG and Queensland Curtis LNG (QCLNG)
- Wiggins Island Coal Terminal – one wharf operated by Wiggins Island Coal Export Terminal (WICET).

Of the 20 wharves, the multi-user Auckland Point Terminal No. 4 is the only container wharf within the port of Gladstone. It has a berth pocket of 11.4 m (LAT), a berth pocket length of 220 m, wharf face of 220 m, wharf width of 33.9 m, wharf length (including mooring dolphins) of 269 m, bollard capacity of 100 tonnes (t), and a max vessel Dead Weight Tonnage (DWT) of 70,000 t. Container operations at Auckland port Terminal No. 4 are carried out by a large mobile container crane.

The port of Gladstone limits ship size to 320 metres (m) length overall (LOA), beam 55 m and draft dependent on tide but not likely to exceed 18 m. Loaded ships may be draft restricted. The design depth of the Outer Harbour Channel is 16.1 m but may be less than this between scheduled dredging; a vessel can sail (weather conditions permitting) at 17 m draft on any day of the year and up to 18 m draft with the appropriate tide heights.

Port service providers are available 24 hours per day, seven days per week.

2.4.3.22 The Port of Guaymas, Mexico

The Port of Guaymas, is situated northwest of Guaymas Bay and on the east coast of the Gulf of California. The Administración Portuaria Integral (API) de Guaymas, S.A. de C. V. has been the port authority for the Port of Guaymas since 1995. The Port of Guaymas has a diverse infrastructure that allows the safe navigation of large vessels with an access channel, docking and 6 berthing positions. The berths are separated into two bands: the south band with 360 m and the east band with 900 m. The berthing positions are frequently maintained and dredged to keep them in optimal conditions.

In 2021, the Port of Guaymas, located in the Mexican state of Sonora, processed approximately 600,000 metric tons of cargo. This represents a slight increase from the nearly 590,000 metric tons handled in the previous year.

2.4.3.23 The Port of Haiphong, Vietnam

Hai Phong port is one of northern Vietnam's most crucial and expansive seaports. Situated near the Red River Delta, Hai Phong city serves as a strategic hub for trade and international relations. Its proximity to the Chinese border and transport links to major northern cities such as Ho Chi Minh City, Can Tho, and Da Nang contribute to its status as a busy commercial centre.

Hai Phong city is well-connected through various modes of transport, including railways, roadways, airways, inland waterways, and maritime routes.

The Hai Phong seaport has an annual cargo handling and storage capacity of 10 million MT. It can accommodate vessels ranging from 700 deadweight tonnes (DWT) to 40,000 DWT. The port features an average channel depth of 8.5 metres and a total wharf length of 3567 metres.

The Chua Ve Container Terminal has undergone significant enhancements, establishing it as the largest and most state-of-the-art container terminal in northern Vietnam, capable of handling 500,000 twenty-foot equivalent units (TEUs) annually.

Saigon Newport Company, a business unit under the Vietnam People's Navy – Ministry of National Defence, is the managing company/Port Authority.

2.4.3.24 The Port of Ho Chi Minh City, Vietnam

The Port of Ho Chi Minh City, which is part of Saigon Port, is located on west bank the Song Sai Gon (Saigon) River. Saigon Port is the largest port in the south of Vietnam and has a history of over 160 years in contributing to Vietnam's economic development. In 2022 the total volume of cargo exceeded 9 million tons. Ho Chi Minh City surrounds the Saigon River, which opens up in the South China Sea 20 km northeast of the Mekong Delta.

The port is managed and operated by the Saigon Newport Corporation, a business unit under the Vietnam People's Navy Ministry of National Defence. Over its 18-year operation, Saigon Newport Holding Company has developed terminals and operations in the Port of Ho Chi Minh City (or Saigon Newport). The port handles over 65% of Ho Chi Minh City's container traffic and more than 40% of the country's total container traffic.

2.4.3.25 The Port of Honiara, Solomon Islands

Honiara Port is the principal port of the Solomon Islands, located on the northern side of Guadalcanal. The primary imports to this port consist of consumer goods and machinery, while its main exports include copra, palm oil, fish, and timber.

Annually, the port welcomes around 190 vessels. The majority of these, about 60%, are cargo vessels, while tankers make up approximately 13%. The largest vessel to have docked at this port had a length of 200 metres, a draught of 12 metres, and a deadweight of 51,747 tons.

The Honiara port is a domestic dock area which houses seven distinct jetties, each designed specifically for vessels navigating the Solomon's Sea. These include jetties for both passenger and cargo ships, as well as those for Landing Crafts.

The Solomon Islands Ports Authority (SIPA) was created on June 4, 1956, by a law passed in Parliament. The law was last updated in 1996, making SIPA a government-owned authority under the 2007 State Owned Enterprises Act. SIPA, which manages the Honiara and Noro ports, reports to the Infrastructure Development Minister

2.4.3.26 The Port of Izmir, Turkey

The port of Izmir lies on the south-east coast of Izmir Gulf in West Turkey, to the east of Aegean. The T.C. General Directorate of Turkish State Railways Authority (TCDD) is the port authority for the port of Izmir. Izmir port is the third largest in Turkey and is connected to the Turkey's rail and highway networks, providing a key node for import and export for the country.

Turkey Container Port Throughput was reported at 12,591,327.000 Twenty-foot equivalent units twenty-foot equivalent units (TEU) in Dec 2021. The container terminal has 15 berths which have an alongside depth of 13 m. The total length of the berths is 10.5 m.

The terminal covers an area of 902,000 m^2, and the holding capacity is 1 million TEU. Container operations at the quays are carried out by five gantry cranes of 40 tons capacity. The operations at the container yard are carried out by 14 rubber-tyred transtainers and 17 reach stackers of 40 tons capacity, together with 12 containers. Reefer facilities for refrigerated containers are also available. The berths and the yard behind are well equipped with modern handling facilities.

2.4.3.27 The Port of Jakarta, Indonesia

The port of Jakarta (also known as Tanjung Priok) lies on the north-west coast of the island of Java at the mouth of the Ciliwung River. The port is the busiest port in Indonesia. It handles more than 30% of non-oil-and-gas cargo in the country, and around 50% of the entire flow of goods into and out of Indonesia. The comprehensive intermodal transport and modern technology facilities at the port allow it to connect to a network of cities in Indonesia.

The port of Jakarta contains twenty terminals devoted to general, dry bulk, liquid bulk, and containerised cargoes. Specialised terminals handle oil, chemicals, scrap, and passengers. The port of Jakarta has 81 berths with a total length over 12.8 kilometres (km) with alongside depths ranging from 3 to 14 m. The port of Jakarta also contains storage yards areas of 1,995,074 m2.

Indonesia ports Corporation Tanjung Priok (IPC or PELINDO II) branch manages vessel traffic in port waters and basins, including anchoring and berthing of cargo ships.

2.4.3.28 The Port of Lae, Papua New Guinea

The port of Lae is Papua New Guinea's (PNG's) largest and busiest port, located in the Morobe province of PNG, Lae is the second largest city and the capital of the province (Logistics Cluster, 2024f). The port handles bulk cargo, tankers and liquefied natural gas carries, Roll on Roll off (RoRo) vessels and general container cargo. There are no wharf mounted gantry cranes, however forklifts are available and capable of lifting to 20 tonne containers The port has five berths with a total length of 520 m, a total storage area of 53,620 m^2 for cargo marshalling, and maximum depth of 13.7 m. Port of Lae handles approximately half of the throughput of PNG's 22 declared ports, and more than 60% of the international and coastal trade registered in PNG ports Corporation Limited (PNGPCL) ports, it generates more than 50% of PNGPCL's total revenue.

Lae serves as a gateway linking the world market with a large hinterland comprising Morobe province, the city of Lae (PNG's industrial and commercial centre), and five resource-rich provinces in the Highlands. PNG's most significant road, the Highlands Highway, runs from Lae to the Highlands region, dispensing imports ranging from heavy machinery to food products in the region and bringing the country's major export items to the port.

2.4.3.29 The Port of Laem Chabang, Thailand

The port of Laem Chabang is situated on the eastern side of Thailand, southeast of Bangkok and north of Pattaya, and covers an area of 1,040 hectares. Laem Chabang is Thailand's main deep seaport and currently handles over 1 million Twenty-foot Equivalent Units (TEUs) annually. The port Authority of Thailand governs the activities and operations of the port of Laem Chabang.

Thailand's strategic geographical location and close proximity to neighbouring countries such as Myanmar, Laos, Cambodia and Malaysia enable Laem Chabang to act as a gateway port for South East Asia for international trade and goods import. Furthermore, Laem Chabang is well connected to its neighbouring hinterland via a sophisticated network of highways, railways, and waterways.

The port of Laem Chabang consists of several minor ports that provide services including seven container terminals, one multipurpose terminal, one roll on roll off (RO-RO) terminal, one passengers and RO-RO terminal, one general cargo terminal, and one shipyard terminal. Laem Chabang port can also handle extra-large ships.

2.4.3.30 The Port of Lazaro Cardenas, Mexico

The Port of Lazaro Cardenas is located within the Mexican State of Michoacán. The port is owned and operated by the Mexican government and is one of its largest seaports. It is the deepest port in Mexico handling 2.2 million twenty-foot equivalent units (TEU) of, dry bulk, and liquid cargo annually.

The port is strategically located having direct access to a highway, rail connection and fifteen intermodal terminals. There is daily departure of two railways within Mexico and the United States with a capacity of up to 240 containers.

2.4.3.31 The Port of Lihir Island, Lihir

The Lihir Island Port, designated by the port code PGLNV, is a moderately sized port situated in Papua New Guinea. Its location is approximately 900 kilometres (or 560 miles) to the northeast of Port Moresby.

The port frequently hosts two types of vessels: container ships, which make up about 50% of the traffic, and oil and chemical tankers, which constitute around 21%. The port can accommodate vessels with a maximum draught of 9.8 metres and a maximum deadweight of 36919 tons. The longest vessel recorded to have entered this port measured 200 metres in length.

2.4.3.32 The Port of Lyttelton, New Zealand

The Port of Lyttelton is located on the southern island of New Zealand, outside the township of Lyttelton and approximately five nautical miles from open sea. The entrance to the inner harbour is approximately 150m wide and provides a sheltered, deep-water port for container, bulk, and conventional vessels.

Cargo includes fertiliser, gypsum, cement, imported vehicles, aviation fuel, diesel, and other petroleum products. The port is also New Zealand largest coal facility. In total, over 500,000 twenty-foot equivalent units (TEUs) of container cargo were loaded and unloaded in FY22.

2.4.3.33 The Port of Manzanillo, Mexico

Manzanillo, city and port, are on the Pacific Ocean between Manzanillo Bay and Cuyutlán Lagoon. In 2021 the Manzanillo port transported 4.52 million twenty-foot equivalent units (TEU) due to an increase in mining bulk handling, allowing the port to lead the logistic activity in the Pacific and hold the highest record in standard container movement. The port includes four terminals, 46-foot (14-meter) harbor depths and 17 berths. The chief exports include copra, corn (maize), bananas, lemons, fish, minerals, lumber, wine, and canned goods.

The port of Manzanillo boasts two key transportation routes for moving goods:

- Road Transport: By road, it is connected to an extensive network of over 285 kilometre's of roadway within the Colima region.
- Rail Transport: The Ferromex service plays a crucial role in transporting goods. It serves not only the local area but also extends its reach to countries such as the United States of America, Canada, Guatemala, Colombia, and Chile.

These transport links contribute significantly to Manzanillo's economic vitality and facilitate the movement of goods across borders and regions.

Stevedoring is run by Hutchison Ports Terminal Internacional de Manzanillo (TIMSA).

2.4.3.34 The Port of Melbourne, Australia

The Port of Melbourne is the leading international container terminal in Australasia. It handles over 3.23 million Twenty-foot equivalent units (TEUs) annually. Overall, the port of Melbourne owns and manages around 500 hectares of port land. It is the largest container in Australasia and though its multipurpose terminals handle a variety of non-containerised pack types. These include farm equipment and machinery, and breakbulk commodities like timber, paper, iron and steel (port of Melbourne Operations Pty Ltd.

The Port of Melbourne is operated by Ports Victoria, formally (Victorian Ports Corporation Melbourne (VPCM)). As a government owned entity, Ports Victorias responsibilities include the management of commercial shipping in Port Phillip, waterside emergency and marine pollution response, and the management of Station Pier as Victoria's premier cruise shipping facility.

2.4.3.35 The Port of Mersin, Turkey

The Port of Mersin is one of the main container ports servicing Turkey. The operating right of Mersin Port, which had been operated by Turkish Republic State Railways (TCDD) until the date of 11 May,2007, was assigned for 36 years to Mersin International Port Management INC. (MIP). Mersin port is Turkey's largest container port, and the port facility is connected to Turkey's rail and highway networks providing a key node for import and export for the country.

The port area covers 124 hectares and has the following key features:

- The port has 21 total berths with depth of 15.8 m.
- 2,600,000 twenty-foot equivalent units (TEU) per year of container handling capacity.
- 1,000,000 tonnes (t) per year of general cargo handling capacity.
- 12 gantry cranes and 6 mobile cranes to support operations.
- The port provides 24/7 pilotage, towage, and mooring services.

The Port of Mersin has a continuous security and operational monitoring system, the overall running of which is controlled via a centralised Terminal Operating System (TOS). There are closed-circuit television (CCTV) cameras at numerous points within the port, and entry/exiting is controlled through biometric identification cards. Entry and exit are limited to authorised personnel only.

2.4.3.36 The Port of Monrovia, Liberia

The port of Monrovia (also referred to as the Freeport of Monrovia) is managed by the National Port Authority and APM Terminal for the main quay. The main storage area in the Terminal is the yard for the containers which is around 10 hectares.

APM Terminals Liberia operates one dedicated berth for container operations, in addition to its one multi-use berth. Six reach stackers, two empty handlers and four heavy duty forklifts for containers loading or collection of containers. There is a three-lane, automated in gate, and a separate three-lane out gate.

The port of Monrovia is an International Ship and Port Security (ISPS) certified Security Level One port. Security services are subcontracted by APMT and there is ongoing project to install closed-circuit television (CCCTV) in the port to monitor all movements. APM Terminal ensures adequate lighting during the night which helps in increasing the security standards in the Terminal. APM Terminal uses its own generators for electricity and is not linked to the national grid.

Under current rules provided by APM Terminals transhipment or import International Maritime Dangerous Goods (IMDG) Class 6.1 is authorised under restrictions including request prior to loading at port of departure and containers are to be transported outside of the port upon discharge.

2.4.3.37 The Port of Port Moresby, Papua New Guinea

The Port Moresby port is located on the southeastern coast of Papua New Guinea (PNG) on the Gulf of Papua in the province of the National Capital. The government of PNG is the sole shareholder, while the PNG Ports Corporation Limited is the port authority and all other port facilities within Papua New Guinea. The PNG Ports Corporation Limited is responsible for managing and controlling the ports whereas the regulatory functions are carried out by the Department of Transport, PNG.

There are 3 conventional Berths and 3 Container Berths with Berth 4A being a multipurpose berth used for handling grain, dry break bulk, and liquid bulk (petroleum) cargoes. It also serves coastal berths in Port Moresby. The port has a terminal that handles containerised cargo, with equipment provided by the stevedoring company. It has a capacity of 120,000 twenty-foot equivalent units (TEUs) per year and a storage area of 6 hectares. Stevedoring Services that facilitate the loading and unloading of cargo from ships, is provided by Ports Services Limited, Bismark Maritime and United Stevedore.

2.4.3.38 The Port of Nhava Sheva, India

The Port of Nhava Seva, also known as Jawaharlal Nehru Port Authority, was constructed in 1989 in Navi Mumbai. It is the premier container handling port in India and accounts for around 50% of the total containerised cargo volume across the major ports of India. Nhava Sheva operates five container terminals and has both a Coastal Berth and a Shallow Water Berth. The port provides round the clock pilotage to all ocean-going vessels calling the Port. They have a Vessel Traffic Management System which regularly coordinates vessel movement through collection, verification, organisation, and dissemination of information which is done in conjunction with the master control station at Mumbai Port Trust premises.

Nhava Sheva has a pollution control cell that carries out regular inspections of the Port channel and berth area to check for oil spillage. They also have a Port Waste Management Plan that details their responses to pollution and spillages

(JNPA, 2008). In financial year 2023-24 Nhava Sheva handled a record number of 6.43 million TEU's (a standard size for a shipping container) and 85.82 million tonnes of total cargo.

2.4.3.39 The Port of Ningbo, China

Ningbo Zhoushan Port comprises 19 port areas with 200 large deepwater berths for vessels exceeding 10,000 dwt and more than 115 large and super-large deepwater berths for vessels over 50,000 dwt. The port operates the majority of large and super-large deepwater berths in Mainland China.

Strategically located on the busiest trade routes in the Pacific Ocean and backed by China's dynamic Yangtze River Delta economic region, Ningbo Zhoushan Port serves as the optimal distribution hub for cargos entering and exiting Mainland China. At the end of 2019, the port had established connections with over 600 ports across 190 countries and regions, offering nearly 250 trade routes, including 120 ocean-going lines.

Since 2005, the cargo volume at Ningbo Zhoushan Port has seen rapid growth and in 2019, the port's container throughput reached 27.535 million twenty-foot equivalent units (TEUs), securing its position as the third largest in the world. Furthermore, the total cargo throughput hit 1.12 billion tons.

Zhejiang Provincial Seaport Investment & Operation Group Co. Ltd., viz. Ningbo Zhoushan Port Group Co. Ltd. (also known as Zhejiang Seaport Group) is a large state-owned enterprise of Zhejiang Province and manages the Ningbo Zhoushan Port.

2.4.3.40 Pantoloan Port of Palu, Indonesia

The Pantoloan Port of Palu is the main port of Palu Bay. The terminal is in Central Sulawesi province in the district/city of Palu and is located towards the mouth of the cove. The city of Palu is located at the base of the cove. In 2018 and earthquake and subsequent tsunami hit Sulawesi and damaged parts of the Palu Bay ports, leading to works for reconstruction of Patoloan Port to be conducted. The port is state owned, and its complete name is PT. Pelabuhan Indonesia IV (Persero) Cabang Pelabuhan Pantoloan.

As of 12 October 2018, the port returned to normal operations for commercial and non-commercial cargo. All vessels can berth at the port however due to damage to infrastructure vessels were required to be equipped with a ship crane for unloading purposes. The port has reach stackers, transtainers and forklifts available however the container gantries were damaged. There are container facilities available, and the existing container yard and warehouse can be used as a Container Freight Station.

Pantoloan Port of Palu is the main storage terminal and has two warehouses of 1,000m2 capacity. One warehouse unit is available however the door was damaged during the earthquake and tsunami and was being guarded by port security.

2.4.3.41 The Port of Angamos, Chile

Puerto Angamos is in the heart of the mining region of Chile, in the commune of Mejillones approximately 1,400 km from Santiago and only 65 km from Antofagasta.

The port is situated close to the most important copper district in the world, where there are several world-renown mining operations such as Chuquicamata, Escondida, Spence, Radomiro Tomic, El Abra and El Tesoro, among others. Angamos has fast access by train and truck connecting the main mining operations of Chile, Argentina and Bolivia, with the port without the need to cross through densely populated areas.

The port has a multi-purpose, mono-operated terminal with four berths, maximum draft is 13.7 metres and there is capacity to receive ships of up to 155 thousand tonnes of displacement and 366 metres in length. Extensive storage capacity exists on site for containers, general/special cargo and bulk goods, as well as good interconnectivity options for transhipment via rail or road.

The Bay of Mejillones offers natural protection that provides exceptional conditions for most of the year against the tides coming from the south of the country. Meanwhile, its deep waters ensure availability to larger vessels and the ability to work safely.

2.4.3.42 The Port of Puerto Cortes, Honduras

Puerto Cortes is the main Honduran port and one of the most important on the Atlantic slope of Central America (Logistics Cluster, 2024). It has two active concessionaires: Oeradora Portuaria Centroamericana (container and general cargo terminal) and Terminal Especializada de Honduras (solid bulk). Puerto Cortes is the only deep-water port in Central America and is the main hub for international shipping and containers. The Atlantic Cost port provides 24-hour service and has modern roll-on/roll-off and refrigeration facilities.

The Empresa Nacional Portuaria (ENP) is Honduras's national port company that began operations in 1966. The company is located in the city of Puerto Cortes and has six ports in total, including Puerto Cortes (ENP, 2024).

Puerto Cortes is one of three Secure Freight ports that scans 100 percent of all cargo bound for the United States in compliance with the Security and Accountability for Every Port Act of 2006, the SAFE Port Act (U.S Customs and Border Protection). The port uses Radiation Portal Monitor (RPM) systems to detect radiation, Non-Intrusive Inspection (NII) equipment for imaging, and hand-held Radiation Isotope Identification Devices (RIIDs), as well as other technologies to ensure the integrity of the scanning process.

2.4.3.43 The Port of Puerto Deseado, Argentina

Located on the southern Patagonia coast of Argentina, Puerto Deseado is the capital of the Santa Cruz province. Puerto Deseado is situated on the estuary at the mouth of the Deseado River and is a multi-purpose port facility handling fish, container, and general cargo.

Port operations include:

- The approach of the vessel to the ports will take into any account any channels, special navigation points and as mentioned above the currents, tides, and weather.
- Entry into port is controlled by the port's Pilot who understands the port protocols and any unique issues regarding the approach and docking of a vessel at the port. The Ship's Captain works in conjunction with the Pilot as he understands his vessel and can implement and assist with the Pilot's instructions.
- Port protocols exist for docking of vessels (e.g.,, use of Pilots, use of tugboats, management of different weather conditions, tides, currents and safety and general port operations). This sees to the safe docking and turnaround of the vessels in and out of the port.
- Once a vessel is secure alongside the wharf the shipping activities changeover to port activities. The vessels manifest of what containers are required to be unloaded from the vessel, including the manifest for containers for loading are handed over. This manifest will identify hazardous cargos and their UN number and classification and segregation requirements.

Stevedoring is undertaken by third-party contractors. Stevedoring operations include:

- Handling of the containers whether full or empty on and off the vessels; container storage areas for general cargo, port security, control systems for companies and their vehicles collecting and or delivering containers.

- Software programs that control container placement and movement; these software packages identify each individual container placement area in designated stacks. The input information for the placement of containers comes from the vessel's manifest.

2.4.3.44 The Port of Puntas Arenas, Chile

Port of Punta Arenas is in south Chile in the Strait of Magellan and is a principal seaport. It is a replenishment port for vessels making the transit between the Atlantic and Pacific Oceans and handles a limited amount of general cargo and container. The port is made up of sub-ports and smaller terminals such as Puerto Percy, Lenadura, Cabo Negro, Bahia Gregoria, Caleta Clarencia, Caleta Cutter, Puerto Natales, Laredo and Pecket. Approximately 360,000t of cargo and 13,000 twenty-foot equivalent units (TEUs) are handled annually.

2.4.3.45 The Port of Rockhampton, (formerly Port of Alma), Australia

The port of Rockhampton (RoP) (formerly known as port of Alma) is located 62 kilometres (km) east of Rockhampton the southern end of the Fitzroy River delta. The port is managed by the Gladstone ports Corporation (GPC), a statutory Queensland Government-owned corporation who maintain the dredging, security, berths and operations at the port. The principal cargoes handled are class 1 explosives (Class 5.1 under International Maritime Dangerous Goods (IMDG) Code, ammonium nitrate, bulk tallow and military equipment for exercises held regularly at Shoalwater Bay to the north of Rockhampton. The port is a natural deep-water harbour that accommodates vessels up to 180 metres in length and has a total storage area of 140 hectares.

The port has three berths, 1 & 2 are for general cargo operations and Berth 3 is dedicated to tallow/fuel cargoes. Suitable infrastructure is available for the handling of containers, with approximately 248,620t of cargo handled annually. The main imports entering this port include petroleum products, ammonium nitrate, explosives, break bulk and general cargoes. The principal exports leaving this port are frozen beef, live cattle, tallow, ammonium nitrate, explosives, scrap metal, break bulk and general cargo.

Shipping legislation in Queensland is controlled by Maritime Safety Queensland (MSQ), a state government agency attached to the Department of Transport and Main Roads. GPC is responsible for the management of dangerous goods in the port, including the loading and unloading of ships alongside and movement across the wharf. MSQ is responsible for monitoring and managing the safe movement of ships in Queensland waters.

2.4.3.46 The Port of Santos, Brazil

The Port of Santos is the largest in Latin America and connects over 600 ports in 125 countries. In 2018, the port was responsible for processing 133 million tons of cargo and 4.1 million twenty-foot equivalent units (TEUs).

Santos is the most important foreign trade route in Brazil. Almost 27% of the country's trade balance passes through the port. It is also the 39th largest container port on Lloyd's Top 100 list (the second largest in Latin America, and the only Brazilian port on the list).

2.4.3.47 The Port of Shanghai, China

Shanghai International Port Group (SIPG) is the operator of public terminals in the Port of Shanghai and is a large-scale specialised conglomerate established in 2003.

The port of Shanghai is located near the city of Shanghai and includes both a deep seaport and river port. It is situated in the middle of the Chinese coastline, where the Yangtse River flows into the sea and covers an area of over 3,500 square kilometres. It is the largest seaport in the world and is operated by Shanghai International Port (Group) Co Ltd (SIPG).

The port has 125 ports and 19 terminals. The port can receive the largest container ships in the world due to its lifts that can bear more than 100 tons, and they have an array crane that are fixed, mobile and floating.

There are three main container port areas, Wusongkou, Waigaoqiao and Yangshan, which have a combined quay length of more than 13 kilometres (8 miles), 43 berths and 156 container cranes. The port has two bulk cargo terminals and three break-bulk terminals located in Longwu, Luojing and Wusong. The port handles mainly coal, metal-ore, petroleum and petroleum products, steal, and machinery and equipment.

2.4.3.48 The Port of Sihanoukville

The Port of Sihanoukville is in Preah Sihanouk Province in the southwest of Cambodia and is the sole deep-sea international port for the country. The port is situated in the Bay of Kompong Som and has natural advantages from a string of islands which protects it from strong winds and tidal waves and the location does not require dredging of the navigational channels. The port has 8 Berths and a tanker terminal naturally protected from winds through islands and a constructed breakwater. There is a container terminal with a combined 155,000 m2 capacity. The port's main services include navigation, cargo handling, cargo storage and warehousing, transport, special economic zone, and they are a logistics supply base for offshore exploration.

To safeguard and improve vessel management, the installation of Vessel Traffic Management System (VTMS), navigational buoys and maintenance of vessel channels has been carried out. A Container Terminal Management System for container management, yard and vessel planning, and container offloading has been installed. Available safety and security features include equipment such as X-ray and Gamma-ray container scans, closed-circuit television (CCTV) cameras, emergency response personnel, boat patrols, a radiation portal monitor, and medical and ambulance capabilities are available.

2.4.3.49 The Port of Singapore, Singapore

Singapore Port is situated at the southern tip of the Malay Peninsula, 30 kilometres southwest of Johor Port in Malaysia. It stands as the world's busiest container transhipment hub and the largest publicly owned port, providing connections to over 600 ports across 123 countries. The port is well-equipped with six terminals and eighty-four berths, offering a variety of services for break bulk and specialised cargoes. Its facilities enable the handling of containers and various types of cargo, including bulk, break-bulk, and project cargo.

In 2023, Singapore's annual vessel arrival tonnage exceeded 3 billion Gross Tonnage, maintaining its position as the world's busiest transshipment hub with a total container throughput of 39.0 million twenty-foot equivalent units (TEUs).

The Port of Singapore is made up of various facilities and terminals that manage a diverse range of cargo in different forms, including containers and conventional and bulk cargo. MPA oversees the comprehensive development and expansion of the Port of Singapore, which includes terminal operators such as PSA Corporation and Jurong Port Pte Ltd.

The Maritime and Port Authority (MPA) of Singapore assumes multiple roles including port authority, maritime and port regulator and planner, advocate for international maritime centres, national maritime representative, and promoter of digitalisation and decarbonisation initiatives at regional and international platforms like the International Maritime Organization.

2.4.3.50 The Port of Surabaya, Indonesia

Surabaya Port, also known as Tanjung Perak (TPS), is located on the north shore of eastern Java Province, Indonesia. It is situated at the mouth of the Mas River in the Strait of Madura, near Tuban and Camar Marine Terminals. As the second busiest seaport in Indonesia, it plays a strategic role in inter-island shipping for Eastern Indonesia due to its advantageous location and surrounding hinterlands. The port is equipped with dock facilities that can accommodate both domestic and international cruises.

The location of TPS is very strategic as it connects directly to the Surabaya toll way and the railway network into East Java and Eastern Indonesia.

The port has 4 main terminals, consisting of multi-purpose terminals for conventional cargo handling, a passenger terminal, RoRo and an international container terminal. Tugging, pilotage, bunker, storage and shipyard services are also provided.

The port of TPS is managed by the PT Pelabuhan Indonesia (Pelindo) III – Cabang Tanjung Perak. PT Berlian Terminal Services Indonesia (PT BJTI), a subsidiary of PT Pelabuhan Indonesia III (Limited), operates as a port service provider. Their offerings include:

- Management of General Cargo
- Liquid Bulk Goods Handling
- Coal Handling
- Terminal RO-RO / Car Carrier Cargo Services
- Container Yard (CY) Services
- Comprehensive Forwarding Services.

2.4.3.51 The Port of Takoradi, Ghana

The Port of Takoradi is located 230 kilometres east of Accra. Takoradi is strategically positioned to service the northern hinterland of Ghana and serve as an alternative port for economic operators in the landlocked countries of Burkina Faso, Niger and Mali. Takoradi Port is the main export port, handling 65% of total exports with about 600 vessels visiting annually. The main exports include cocoa, timber, bauxite and manganese. All vessels entering the port are fully handled by the Marine Operations Department and solely the responsibility of Ghana Ports and Harbors Authority under the supervision of the Harbour Master.

The port stevedore department handles 25% with the remaining 75% allocated to the 5 companies licensed to operate at the port. Cargo allocations are handled by the Harbour Master. Private stevedore companies operating in the port are:

- Advance Stevedore
- Atlantic Port Services
- Golden Gate Service
- Speedline Company
- Gemini Maritime Services.

Port protocols exist for docking of vessels (e.g.,, use of Pilots, use of tugboats, management of different weather conditions, tides, currents and safety and general port operations). This sees to the safe docking and turnaround of the vessels in and out of the port.

GPHA operates an integrated management system in line with requirements of International Standards Organization (ISO) 9001: 2015, ISO 14001: 2015, and OHSAS 18001:2007.

2.4.3.52 The Port of Tanjung Pelepas, Malaysia

The Port of Tanjung Pelepas (PTP), one of the world's top 20 busiest ports, it is situated in Iskandar Puteri, within the Johor Bahru District of Johor, Malaysia at the intersection of the primary east-west shipping routes. This location allows Shipping Lines a mere 45-minute deviation time and is situated in a sheltered bay without any tidal restrictions.

The port features 14 linear berths spanning 5.04km in total. The terminal is outfitted with 66 Super Post Panamax cranes, including 24 with a 24-box outreach designed to accommodate the upcoming generation of Triple E size vessels.

Located at the eastern entrance of the Pulai River in southwestern Johor, Malaysia, the port is conveniently close to the Straits of Johor, which demarcates the border between Malaysia and Singapore, and the Strait of Malacca. The port, which was built to rival Singaporean ports, handles transshipment for over 90% of its traffic. With an impressive annual capacity of 12,500,000 twenty-foot equivalent units (TEU), it stands as Malaysia's most technologically advanced container terminal.

MMC Port Holdings Sdn Bhd, a subsidiary of the MMC Group, manages key gateways and transhipment hubs that play a crucial role in promoting international trade and Malaysia's economic development (MMC Ports, 2024). APM Terminals (APMT) and MMC Group, the joint owners, have invested approximately $178 million in the facility for 2022. With an aim to reach the 15 million TEU milestone in the upcoming years, PTP has prioritized a range of digital expansion projects.

2.4.3.53 The Port of Tauranga, New Zealand

The port of Tauranga (POTL) is in the Bay of Plenty region, on New Zealand's North Island. It is operated by the company, Port of Tauranga Ltd and can accommodate the largest container vessels.

The Tauranga Container Terminal has dedicated road and rail access, streamlining cargo movement into and out of the port, and is a key link in the MetroPort (land port) Auckland and the Ruakure Auperhub that opened in 2022. The Terminal operates a fleet of 53 straddle carriers linked by leading-edge information technology, ensuring the efficient movement of containers and allowing customers to track their cargo through every step in the process.

At Tauranga, all cargo, which is, or contains Dangerous Goods, is to be received, stored and despatched using appropriate hazard control procedures based on the Internationals Maritime Dangerous Goods (IMDG) classification. The port area is regarded as a large ship and all cargo is to be planned and stowed in terms of the Code. Planners preparing cargo for loading into ships use the IMDG Code to ensure safe and compliant stowage of the vessel.

2.4.3.54 The Port of Tema, Ghana

The port of Tema is the largest port in Ghana and located 30 km from Accra. The port handles about 12 million tonnes of cargo annually and receives over 1,650 vessel calls per year, including container vessels, general cargo vessels, tankers, Roll-on/Roll-off (Ro-Ro) and cruise vessels.

Tema port is the main container port servicing Ghana and its neighbouring landlocked countries. The port harbour has a water-enclosed area of 1.7 million m^2 and covers a total land area of 3.9 million m^2, 12 deepwater berths, one oil-tanker berth, one dockyard, warehouses, and transit shed.

Cyanide manufacturers and suppliers can ship product to the port from different parts of the world. The port allows for the unloading of shipments for final road transportation to the mining operations in Ghana as well as Burkina Faso and Eastern Mali.

The Ghana Ports and Harbour Authority (GPHA) oversees Port operations.

Ghana is a member of the International Maritime Organization (IMO) Council and is party to the Abuja Memorandum of Understanding, and as such performs its Port State Obligations, supervises foreign ships that berth at Ghana ports, and promotes compliance with international conventions among Flag States through Port State Control.

GPHA operates an integrated management system in line with requirements of International Standards Organization (ISO) 9001: 2015, 14001: 2015 and OHSAS 18001:2007.

2.4.3.55 The Port of Townsville, Australia

The Port of Townsville Queensland, Australia, is a corporation owned by the government. Positioned to the south of Ross Creek's mouth and to the north of the Ross River, it ranks as the third largest seaport in Queensland, following the Port of Brisbane and the Port of Gladstone. It holds the distinction of being the largest port for general cargo and containers in Northern Australia.

The port handles general and small-sized/light project cargo, refined metals, and production input cargo, which collectively make up just under 10% of the total trade. The port services the mining, agricultural, and industrial sectors of north and central Queensland with containerised imports like chemical products, plant, machinery, and tyres. More than half of the containerised exports are accounted for by refined minerals from the Glencore copper refinery and Sun Metals zinc refinery, along with bagged mineral ores from the Evolution mine.

The Ports of Townsville operates under the security regulations set out in the Maritime Transport and Offshore Facilities Security Act (MTOFSA) 2003. With its eight operational berths, the port handles one of the nation's most diverse regional commodity bases.

2.4.3.56 The Port of Walvis Bay, Namibia

Walvis Bay Port is the main port of Namibia, located on the west coast of southern Africa. It is the largest commercial port in the country, managed by the Namibian Port Authority (Namport). The port provides direct access to major shipping routes that facilitate global trade. The port accommodates approximately 3,000 vessels annually and manages around 5 million tonnes of cargo. It caters to a diverse array of industries, including petroleum, salt, mining, and fishing, and exports both bulk and bagged salt.

The entrance channel of the port Is 5.2 nautical miles long, 134 metres wide, and has a depth of -14 metres CD. Ships can anchor within the port's limits, and they are safeguarded by the bay.

The Walvis Bay Corridor Group oversees transport corridors that provide quick and easy access to the hinterland. This allows the Gauteng market in South Africa to be accessed via the Trans-Kalahari Corridor, bypassing Durban or Cape Town and saving 7 to 11 days of transit time. The transit time from Antwerp to the Port of Walvis Bay is 17 days.

The port adheres to the International Ship and Port Facility Security code (ISPS). To accommodate increasing throughput levels, Namport has consistently enhanced its cargo-handling facilities and remains dedicated to infrastructure development, aligning with its mission to provide efficient and effective port and related services.

2.5 Trans-shipping and interim storage

Depending on weather, cargo types, journey length, and other operational matters, carriers may trans-ship their cargo from one vessel to another. This involves unloading the cargo at a terminal facility, temporary set down and loading onto another vessel for the continuation of the delivery. Such trans-shipping does occur within Orica's Supply Chain. Orica has no control over when and where this happens, but through its due diligence assessments has satisfied itself that the carriers used (ANL, Cosco, Evergreen, Hamburg Süd, Maersk, MSC, Transmares, NPDL, ONE, PT Temas Shipping, OOCL, PIL, SNL, Swire, Tanto Intim Line, Toll Shipping, U&D Ocean Shipping Co. Ltd and MLB Manfred) undertake the shipping of the product in accordance with the IMO DG Code and in a professional and safe manner.

This satisfaction extends to the selection of port terminals made by the shipping companies and used for trans-shipping and interim storage purposes.

2.6 Auditor’s findings and attestation

	☒ **in full compliance with**	
Orica is:	☐ in substantial compliance with	**The International Cyanide Management Code**
	☐ not in compliance with	

No significant cyanide exposures or releases were noted to have occurred during Orica’s Global Marine Supply Chain certification audit.

Audit Company: WSP Australia Pty Limited

Audit Team Leader: Rudi Seebach

Email: rudi.seebach@wsp.com

2.7 Name and signatures of other auditors

Name	Position	Signature	Date
Rudi Seebach	Lead Auditor and Transport Technical Specialist		April 2024
Lauren Sandon	Lead Auditor		October 2024

Rudi Seebach initiated and conducted the audit for the Orica Marine Supply Chain as the Lead Auditor. Rudi resigned from WSP before the completeness review was complete and was therefore unavailable to complete the minor review updates. Rudi did however approve his signature for use on the documentation. Rudi Seebach is an approved International Cyanide Management Institute Lead Auditor for Cyanide Code certification audits.

Lauren Sandon assumed the responsibility as Lead Auditor following the resignation of Rudi Seebach and completed the minor audit report updates and submitted the finalized audit report on behalf of WSP.

2.8 Dates of audit

The Supply Chain was last certified against the International Cyanide Management Code (ICMC or the Code) on 16 June 2021. In 2024 Orica engaged WSP to conduct an ICMI Recertification Audit of Orica’s Supply Chain. The recertification audit included 13 new ports and 5 new carriers.

I attest that I meet the criteria for knowledge, experience and conflict of interest for Code Verification Audit Team Leader, established by the International Cyanide Management Institute and that all members of the audit team meet the applicable criteria established by the International Cyanide Management Institute for Code Verification Auditors.

I attest that this Summary Audit Report accurately describes the findings of the verification audit. I further attest that the verification audit was conducted in a professional manner in accordance with the *Cyanide Transportation Verification*

Orica Global Marine Supply Chain		October 2024
Name of Facility	Signature of Lead Auditor	Date

Protocol for the International Cyanide Management Code and using standard and accepted practices for health, safety and environmental audits.

Orica Global Marine Supply Chain	______________________	October 2024
Name of Facility	Signature of Lead Auditor	Date

3 Consignor summary

3.1 Principle 1 – Transport

Transport Cyanide in a manner that minimises the potential for accidents and releases.

3.1.1 Transport Practice 1.1

Select cyanide transport routes to minimise the potential for accidents and releases.

	☒ **in full compliance with**	
Orica is	☐ in substantial compliance with	**Transport Practice 1.1**
	☐ not in compliance with	

Summarise the basis for this Finding/Deficiencies Identified:

The Orica Supply Chain is in FULL COMPLIANCE with Transport Practice 1.1 requiring the transport of cyanide in a manner that minimises the potential for accidents and releases.

Orica has implemented a process for selecting transport routes that minimises the potential for accidents and releases or the potential impacts of accidents and releases.

Orica has developed and implemented a management system for transportation and there are specific written procedures that detail the process and the parameters to be assessed when identifying, selecting and assessing potential transport routes. These procedures aim to minimise the risk associated with the transportation of cyanide while maintaining a safe, reliable, efficient and cost-effective delivery system to customer sites and Orica stock points throughout Australia and the world.

Orica undertakes due diligence assessments on carriers, ports, and service providers at regular intervals to ensure that standards are being maintained. Due diligence assessments are completed as a part of the initial route selection process, as well as on a triennial basis, as a means for Orica to ensure dangerous goods product transportation is being carried out in accordance with the required standards. The due diligence assessments state that:

The report is not a final acceptance of [the shipping lines] *OR* [the Port] *for future work and as with all service providers to Orica, Orica will continue to review and monitor the performance on a triennial basis.*

Orica has requirements for the selection and management of contractors for the transport and storage of their cyanide. Procedures cover all transport and storage providers and ensure that contractors working for and on behalf of Orica are aligned with the company's Safety, Health and Environmental standards.

Orica only operates in export markets that are serviced by major international shipping companies with the ability to offer scheduled container services from the port of origin to the destination.

With regards to carriers, Orica has implemented a carrier assessment procedure. The purpose of this procedure is to assess carriers and their contractors at regular intervals against company standards and requirements. Carriers are assessed using the Orica Carrier Assessment Questionnaire as a minimum on a two-yearly basis with additional assessments conducted following any changes to operational requirements or as a result of newly identified risks.

Orica utilises ANL, Cosco, Evergreen, Hamburg Süd, Maersk, MSC, Transmares, NPDL, ONE, PT Temas Shipping, OOCL, PIL, SNL, Swire, Tanto Intim Line, Toll Shipping, U&D Ocean Shipping Co. Ltd and MLB Manfred for the international shipping of cyanide. Containers are placed and secured on vessels at the port of loading by the stevedoring

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company or service provider and removed at the destination by the stevedoring company or service provider at that port. As such, ANL, Cosco, Evergreen, Hamburg Süd, Maersk, MSC, Transmares, NPDL, ONE, PT Temas Shipping, OOCL, PIL, SNL, Swire, Tanto Intim Line, Toll Shipping, U&D Ocean Shipping Co. Ltd and MLB Manfred provide a marine carrier service and handling of containers (on and off vessels) is undertaken by stevedoring companies at each port.

Orica does not have control of over routes taken by the service providers, but has undertaken due diligence assessments of ANL, Cosco, Evergreen, Hamburg Süd, Maersk, MSC, Transmares, NPDL, ONE, PT Temas Shipping, OOCL, PIL, SNL, Swire, Tanto Intim Line, Toll Shipping, U&D Ocean Shipping Co. Ltd and MLB Manfred to verify that the shipments are transported in accordance with regulatory requirements.

The international sales and exports of cyanide by Orica take into consideration the ports and their extended infrastructure available to service the intended target area. The destination port is selected on the basis that it is the closest port to the customer and that it appears to meet reasonable industry standards for safety, security and emergency response.

Due diligence assessments of the ports used in the Supply Chain concluded that the ports meet the requirements of the ICMC. The due diligence assessments state that:

Where issues were identified, it was established that they would be adequately mitigated by Orica reducing the time that product spends at that port.

Risks are identified during the route selection process. Orica has implemented procedures to evaluate, and periodically re-evaluate, the risks of selected cyanide transport routes and take the measures necessary to manage these risks.

Orica documents the measures taken to address risks identified with the selected routes. The measures taken to address risks are documented within the Route and Carrier Assessments, and the due diligence assessments for carriers and ports.

Orica has assessed its routes for special safety or security concerns. The due diligence assessments did not identify the requirement for additional safety and security measures.

3.1.2 Transport Practice 1.2

Ensure that personnel operating cyanide handling and transport equipment can perform their jobs with minimum risk to communities and the environment.

	☒ **in full compliance with**	
Orica is	☐ in substantial compliance with	**Transport Practice 1.2**
	☐ not in compliance with	

Summarise the basis for this Finding/Deficiencies Identified:

Orica is in FULL COMPLIANCE with Transport Practice 1.2 requiring personnel operating cyanide handling and transport equipment to perform their jobs with minimum risk to communities and the environment.

Orica does not directly operate transport vehicles in its Supply Chain.

Orica utilises ANL, Cosco, Evergreen, Hamburg Süd, Maersk, MSC, Transmares, NPDL, ONE, PT Temas Shipping, OOCL, PIL, SNL, Swire, Tanto Intim Line, Toll Shipping, U&D Ocean Shipping Co. Ltd and MLB Manfred for the international shipping of cyanide. Containers are placed and secured on their vessels at the port of loading by the stevedoring company or service provider and removed at the destination by the stevedoring company or service provider at that port. As such, ANL, Cosco, Evergreen, Hamburg Süd, Maersk, MSC, Transmares, NPDL, ONE, PT Temas Shipping, OOCL, PIL, SNL, Swire, Tanto Intim Line, Toll Shipping, U&D Ocean Shipping Co. Ltd and MLB Manfred provide a marine carrier service and all actual handling of containers (on and off vessels) is predominately undertaken by stevedoring companies at each port.

The assessment of transporters is undertaken via the Carrier Assessment Questionnaire (Carrier Assessment). This assessment is detailed and requires that carriers are to be assessed as a minimum on a two-yearly basis, with additional assessments conducted following any changes to operational requirements or as a result of newly identified risks.

Due diligence assessments of ANL, Cosco, Evergreen, Hamburg Süd, Maersk, MSC, Transmares, NPDL, ONE, PT Temas Shipping, OOCL, PIL, SNL, Swire, Tanto Intim Line, Toll Shipping, U&D Ocean Shipping Co. Ltd and MLB Manfred were undertaken to verify that the shipments are handled in accordance with the IMO DG Code. The due diligence assessments found that there were no issues of concern with regards to the management and shipping of cyanide product by any of the carriers.

Orica conducts triennial due diligence assessments, and biennial carrier assessments of carriers used in the Supply Chain.

Orica does not operate transport vehicles or equipment at port facilities used in its Supply Chain, operation is undertaken by the managing port authority or stevedoring service provider at the port.

The due diligence assessments found that the ports used by Orica are performing dangerous goods handling duties in accordance with international and local regulations. Ports selected in the Supply Chain are in IMO member countries, member nations must ensure that ports comply with the requirements of the IMO DG Code 2018, and the training requirements for shore-side personnel as described in Section 3.3.1.

Orica conducts triennial due diligence assessments of port facilities used in the Supply Chain.

3.1.3 Transport Practice 1.3

Ensure that transport equipment is suitable for the cyanide shipment.

	☒ **in full compliance with**	
Orica is	☐ in substantial compliance with	**Transport Practice 1.3**
	☐ not in compliance with	

Summarise the basis for this Finding/Deficiencies Identified:

Orica is in FULL COMPLIANCE with Transport Practice 1.3 requiring that transport equipment is suitable for the cyanide shipment.

Orica does not directly operate transport vehicles in its Supply Chain.

Carriers and ports used by Orica have equipment operation and maintenance capabilities and procedures that are not dependent on Orica. The ability of the carriers and port facilities to operate safely, and their capability to handle dangerous goods is assessed during the Carrier Assessment and due diligence process.

Orica conducts triennial due diligence assessments for carriers and ports, and biennial carrier assessments for service providers used in the Supply Chain.

The completed due diligence assessments found that there were no issues of concern with regards to the management and shipping of cyanide product by any of the carriers; and that the ports used by Orica are performing dangerous goods handling duties in accordance with Orica's requirements and relevant regulations.

Orica utilises select ports and carriers along its Supply Chain and has undertaken due diligence assessments to verify that the shipments are managed in accordance with Orica's and the ICMC's requirements.

3.1.4 Transport Practice 1.4

Develop and implement a safety program for transport of cyanide.

	☒ **in full compliance with**	
Orica is	☐ in substantial compliance with	**Transport Practice 1.4**
	☐ not in compliance with	

Summarise the basis for the Finding/Deficiencies Identified:

Orica is in FULL COMPLIANCE with Transport Practice 1.4 requiring the operation develop and implement a safety programme for transport of cyanide.

There are procedures in place to ensure that cyanide is transported in a manner that maintains the integrity of the producer's packaging.

Product packaging is undertaken at the ICMC-certified Yarwun Facility and cyanide is packaged and transported in accordance with international regulatory standards, thereby meeting the requirements of the political jurisdictions through which the loads will pass.

There are in-transit procedures that allow for checks of the packaging integrity and the reporting of any damage or spillage. There are single use seals placed on doors of shipping containers and checks are tracked and recorded alongside a package's unique serial number.

ANL, Cosco, Evergreen, Hamburg Süd, Maersk, MSC, Transmares, NPDL, ONE, PT Temas Shipping, OOCL, PIL, SNL, Swire, Tanto Intim Line, Toll Shipping, U&D Ocean Shipping Co. Ltd and MLB Manfred require from Orica, evidence that products booked for transport meet the packaging requirements of the IMO DG Code. Some carriers reserve the right to refuse acceptance of cargo that does not meet packaging, container and documentation standards as set out in the Code.

Due diligence assessments of ANL, Cosco, Evergreen, Hamburg Süd, Maersk, MSC, Transmares, NPDL, ONE, PT Temas Shipping, OOCL, PIL, SNL, Swire, Tanto Intim Line, Toll Shipping, U&D Ocean Shipping Co. Ltd and MLB Manfred were undertaken to verify that shipments of dangerous goods are handled in accordance with the IMO DG Code. The due diligence assessments found that there were no issues of concern with regards to the shipping of cyanide product by ANL, Cosco, Evergreen, Hamburg Süd, Maersk, MSC, Transmares, NPDL, ONE, PT Temas Shipping, OOCL, PIL, SNL, Swire, Tanto Intim Line, Toll Shipping, U&D Ocean Shipping Co. Ltd and MLB Manfred. Cyanide product remains sealed and packaged within locked shipping containers until it reaches the end use destination.

Orica conducts biennial carrier assessments, and triennial due diligence assessments of carriers and port facilities used in the Supply Chain.

Orica has a process to ensure that placards or other signage are used to identify the shipment as cyanide, as required by local regulations or international standards.

Placards and signage used to identify the shipment as cyanide meet local and international standards. Diamonds placed at the front and rear of the vehicles identify the load as cyanide and the containers also have labelling that identifies the contents. Orica packaged cyanide remains sealed within its initial packaging and container until its arrival at the destination.

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3.1.5 Transport Practice 1.5

Follow international standards for transportation of cyanide by sea.

Orica is	☒ **in full compliance with** ☐ in substantial compliance with ☐ not in compliance with	**Transport Practice 1.5**

Summarise the basis for this Finding/Deficiencies Identified:

Orica is in FULL COMPLIANCE with Transport Practice 1.5 requiring the operation follow international standards for transportation of cyanide by sea and air.

Shipments of cyanide transported by sea are transported in compliance with the IMO DG Code.

All containers (i.e., freight containers of IBCs and sparge isotainers) are packaged and placarded at the Yarwun Facility in accordance with the requirements of the IMO DG Code with UN numbers, the Class 6 dangerous goods label and the environmentally hazardous substance label.

A container intended for transport has documentation prepared in accordance with the IMO DG code, which is provided to the shipping agent. A copy of the marine documentation is retained at the Yarwun Facility.

ANL, Cosco, Evergreen, Hamburg Süd, Maersk, MSC, Transmares, NPDL, ONE, PT Temas Shipping, OOCL, PIL, SNL, Swire, Tanto Intim Line, Toll Shipping, U&D Ocean Shipping Co. Ltd and MLB Manfred transport Orica cyanide by sea to various destination ports. All packaging and transportation are carried out in accordance with the IMO DG Code.

Due diligence assessments of ANL, Cosco, Evergreen, Hamburg Süd, Maersk, MSC, Transmares, NPDL, ONE, PT Temas Shipping, OOCL, PIL, SNL, Swire, Tanto Intim Line, Toll Shipping, U&D Ocean Shipping Co. Ltd and MLB Manfred were undertaken on behalf of Orica to verify that the shipments are handled in accordance with the IMO DG Code. The due diligence assessments found that there were no issues of concern with regards to the conduct and shipping of cyanide product by the carriers.

3.1.6 Transport Practice 1.6

Track cyanide shipments to prevent losses during transport.

Orica is	☒ **in full compliance with** ☐ in substantial compliance with ☐ not in compliance with	**Transport Practice 1.6**

Summarise the basis for this Finding/Deficiencies Identified:

Orica is in FULL COMPLIANCE with Transport Practice 1.6 requiring the operation track cyanide shipments to prevent losses during transport.

Orica does not employ transport drivers or directly operate transport vehicles in its Supply Chain.

The due diligence assessments for ANL, Cosco, Evergreen, Hamburg Süd, Maersk, MSC, Transmares, NPDL, ONE, PT Temas Shipping, OOCL, PIL, SNL, Swire, Tanto Intim Line, Toll Shipping, U&D Ocean Shipping Co. Ltd and MLB Manfred found that their vessels have continuous means of tracking and communication during voyages. Additionally, each service provider has systems in place to track individual containers from point of origin through to the destination port.

Chain of custody documentation is used by shipping companies to prevent the loss of cargo during shipment. This documentation includes the vessel manifest – which identifies the location and content of each container on the vessel along with packing certificates, Multimodal Dangerous Goods Forms, and Safety Data Sheets (SDS).

ANL, Cosco, Evergreen, Hamburg Süd, Maersk, MSC, Transmares, NPDL, ONE, PT Temas Shipping, OOCL, PIL, SNL, Swire, Tanto Intim Line, Toll Shipping, U&D Ocean Shipping Co. Ltd and MLB Manfred onshore representatives and vessels have the software capability to track individual containers. This service is available from the time they are booked onto a vessel, right through the entirety of the journey, until they are received at the nominated destination port.

For ports of departure in Australia, the Australian Maritime Safety Authority (AMSA) develops and implements policies, statutes and regulations governing the carriage of dangerous goods and other goods by ships in accordance with relative national and international requirements. This includes supervising the safety of ships carrying dangerous goods and processing declarations made by ships carrying dangerous goods.

Carriers are required to declare dangerous cargo to AMSA before arriving/leaving at the port.

For destination ports the due diligences found that ports in the Supply Chain are IMO members and ISPS Signatories.

As IMO members and to comply with the requirements of the IMO DG Code, vessels are required to declare dangerous cargo before arriving/leaving the port to Authorities or stevedoring service providers.

Chain of custody documentation is used by shipping companies to prevent the loss of cargo during shipment. This documentation includes the vessel manifest which identifies the location and content of each container on the vessel along with packing certificates, Multimodal Dangerous Goods Forms, and SDS.

At each destination port stevedoring service providers or terminal managers operate their own choice of information management and cargo tracking systems. These systems include advanced terminal software programs capable of tracking individual containers that are unloaded from carriers and transferred to laydown areas or placed onto another means of transportation (trans-shipping, ground or rail).

Orica's shipping agent can provide updates on the status of shipments on an as needs basis. In each case this includes an estimate on arrival/departure times, where trans-shipping will occur and the time that discharge from the destination port occurs.

Inventory controls, marine transportation and chain of custody documentation processes are implemented to prevent the loss of cyanide during shipment.

Orica requires their carriers to implement inventory controls and/or chain of custody documentation to prevent loss of cyanide during shipment.

Orica requires that their contractors carry records indicating the amount of cyanide in transit and SDS are available during transport. The amount of cyanide in transit, the packing certificates and the SDS are contained within the marine documentation, this includes the shipper's declaration, container packing certificate and quarantine (fumigation) certificate, which accompany the cargo throughout the journey.

Orica utilises select ports and carriers along its Supply Chain and has undertaken due diligence assessments to verify that the shipments are managed in accordance with Orica's and the ICMC's requirements.

3.2 Principle 2 – Interim storage

Design, construct and operate cyanide trans-shipping depots and interim storage sites to prevent release and exposures.

3.2.1 Transport Practice 2.1

Store cyanide in a manner that minimises the potential for accidental releases.

	☒ **in full compliance with**	
Orica is	☐ in substantial compliance with	**Transport Practice 2.1**
	☐ not in compliance with	

Summarise the basis for this Finding/Deficiencies Identified:

Orica is in FULL COMPLIANCE with Transport Practice 2.1 that requires transporters design, construct and operate cyanide trans-shipping depots and interim storage sites to prevent release and exposures.

Orica does not operate trans-shipping or interim storage facilities within its Supply Chain, but circumstances may arise where trans-shipping of cyanide product is required. This involves unloading the cargo at a terminal facility, temporary set down and loading onto another vessel for the continuation of the delivery.

Orica has no control over when and where this happens, but through the completion of due diligence assessments has satisfied itself that the carriers used (ANL, Cosco, Evergreen, Hamburg Süd, Maersk, MSC, Transmares, NPDL, ONE, PT Temas Shipping, OOCL, PIL, SNL, Swire, Tanto Intim Line, Toll Shipping, U&D Ocean Shipping Co. Ltd and MLB Manfred) undertake the trans-shipping of product in accordance with the IMO DG Code and regulations for the handling of dangerous goods pertinent to that port.

Depending on weather, cargo types and other operational matters, carriers may tranship their cargo form one vessel to another.

Trans-shipping ports were not assessed as part of the due diligence assessments carried out on behalf of Orica. The due diligence assessments did not identify any issues of concern with regards to the management or transport of cyanide by ANL, Cosco, Evergreen, Hamburg Süd, Maersk, MSC, Transmares, NPDL, ONE, PT Temas Shipping, OOCL, PIL, SNL, Swire, Tanto Intim Line, Toll Shipping, U&D Ocean Shipping Co. Ltd and MLB Manfred – this extends to the carrier's ability to select a suitable port for the purpose of trans-shipping when required.

The due diligence assessments of the ports identified that temporary storage or set down of product is conducted in accordance with the requirements of the IMO DG Code and other relevant international, and where developed, local dangerous goods handling regulations.

Ports

The due diligence assessments of the ports identified that temporary storage or set down of product is conducted in accordance with the requirements of the IMO DG Code and other relevant international, and where developed, local dangerous goods handling regulations.

Abidjan, Côte d'Ivoire: Port and vessel security is managed through the International Ship and port Facility Security Code (ISPS Code), awarded to the port of Abidjan in 2004. The ISPS Code is a comprehensive set of measures aimed to enhance security of ships and port facilities.

The Port of Abidjan is also certified under Occupational Health and Safety Management Systems (OHSAS) 18001:2007. There are regular security patrols, restricted points of access, video surveillance and the capability to call upon certain specialised State Defence and Security Forces. The new Terminal includes automated gates and an online truck appointment system that significantly speeds up pickup and delivery of containers and improves safety during the process.

When containers of dangerous goods cannot be placed directly onto onwards transportation, they are sent to a secure holding facility under escort of the port Autonome d'Abidjan. All handling of dangerous goods, on and off vessels, must have prior authorisation by the Harbour Master who sets the timeframes that such handling may take place.

Cyanide product remains in the containers that were packed at the Production Facility. The packaging has a sealed plastic liner which stops the contact of product with moisture or humidity. The Intermediate Bulk Containers (IBCs) holding cyanide are stored within shipping containers that are transferred from vessel to trailer and moved to a designated dangerous goods storage area within the terminal confines. Containers are placed in an open-air environment to prevent the build-up of hydrogen cyanide gas.

Ad Dammam, Saudi Arabia: In general, port and vessel security are managed through the International Ship and Port Facility Security Code (ISPS Code). The ISPS Code is a comprehensive set of measures to enhance security of ships and port facilities. The purpose of the ISPS Code is to provide a standardised, consistent framework for evaluating risk, enabling Governments to offset changes in threat with changes in vulnerability for ships and port facilities through determination of appropriate security levels and corresponding security measures. The ISPS Code takes the approach that ensuring the security of ships and port facilities is a risk management activity and that, to determine what security measures are appropriate, an assessment of the risks must be made in each case.

Auckland, New Zealand: The port of Auckland has a statutory obligation to comply with, amongst others, the security requirements of the port's New Zealand Customs (NZC) Procedure Statement, the Customs and Excise Act 1996, ISPS Code and the Maritime Security Act 2004.

For the import of dangerous goods, the port enforces either a Direct to Motor Vehicle (DMV) or L&R process. Allowable dwell times are specified based on dangerous goods class and UN numbers; the dwell time commences from the time the container is discharged onto the wharf. The sodium cyanide allowable dwell time is 72 hours.

Maritime New Zealand is responsible for the enforcement of both the Hazardous Substances and New Organisms (HSNO) Act and Health and Safety at Work Act on board ships but not on land within ports The harbour and port SMSs address the safe handling and notifications of dangerous goods and harmful substances on board ships in the harbour and at the berth. This includes dangerous goods and hazardous substances that may be in transit to other locations but are not being loaded or unloaded.

The Hazardous Substances and New Organisms Act 1996 (HSNO Act) and its associated Codes of Practice – HSNOCOP-16, HSNOCOP-28 and HSNOCOP-2 ensure that cyanide is stored securely and with adequate ventilation.

Beira, Mozambique: The Port has 350,000 m^2 of well illuminated container yard with the capacity of 11,200 TEUs and includes a dedicated International Maritime Dangerous Goods (IMDG) storage area.

As part of port security measures, a security fence has been constructed and a CCTV surveillance system is in place. The port complies with international security standards with current ISPS level 1. While handling cargo, necessary safety procedures are in place.

In general, port and vessel security are managed through the International Ship and Port Facility Security Code (ISPS Code). The ISPS Code is a comprehensive set of measures to enhance security of ships and port facilities. The purpose of the ISPS Code is to provide a standardised, consistent framework for evaluating risk, enabling Governments to offset changes in threat with changes in vulnerability for ships and port facilities through determination of appropriate security levels and corresponding security measures. The ISPS Code takes the approach that ensuring the security of ships and port facilities is a risk management activity and that, to determine what security measures are appropriate, an assessment of the risks must be made in each case.

Belawan, Indonesia: The Belawan port is considered compliant with the International Ship and Port Security Service Code (ISPS) Code. The ISPS code provides a framework through which ships and port facilities can detect and rectify the threats posed to a maritime security. As a state member of IMO and the International Convention for the Prevention of Pollution from Ships (MARPOL), Indonesian port authorities are required to maintain compliance with the safety and operational regulations for the inspection and reporting of an incident involving harmful substance.

As per the 'Regulation of the Minister of Trade No. 7 of 2022', regarding the distribution and control of hazardous substances, consignors for the distribution of certain hazardous substance and are required to obtain a permit to handle hazardous goods and must report the distribution results to the regulatory authority. As per the government regulation (No. 74/2001) for hazardous and toxic substance management, the consignor must obtain an appropriate license and ensure suitable storage facilities are available for segregation of substances and fitted with the appropriate signage/labels.

Bitung, Indonesia: As a state member of IMO and The International Convention for the Prevention of Pollution from Ships (MARPOL), Indonesian port authorities are required to maintain compliance with the safety and operational regulations for the inspection and reporting of an incident involving harmful substance. Port and vessel security are managed through the International Ship and port Facility Security Code (ISPS Code). The ISPS Code is a comprehensive set of measures to enhance security of ships and port facilities. All vessels calling at Indonesian ports must meet ISPS requirements.

The purpose of the ISPS Code is to provide a standardised, consistent framework for evaluating risk, enabling Governments to offset changes in threat with changes in vulnerability for ships and port facilities through determination of appropriate security levels and corresponding security measures. The ISPS Code takes the approach that ensuring the security of ships and port facilities is a risk management activity and to determine what security measures are appropriate, an assessment of the risks must be made in each case.

As per the 'Regulation of the Minister of Trade No. 7 of 2022', regarding the distribution and control of hazardous substances, consignors for the distribution of certain hazardous substance and are required to obtain a permit to handle hazardous goods and must report the distribution results to the regulatory authority.

Brisbane, Australia: Sodium cyanide transited through the port of Brisbane is temporary and remains on site for less than a day. This is a management measure to minimise potential for accidental releases during storage. All sodium cyanide transited through the port of Brisbane remains contained within its sealed containers at all times preventing contact with water and other incompatible materials.

PBPL is responsible for the security and protection of the port's infrastructure and assets, and the provision of risk-based security services. In general, port and vessel security are managed through the International Ship and port Facility Security Code (ISPS Code). The ISPS Code is a comprehensive set of measures to enhance security of ships and port facilities, regulated by the Maritime Transport and Offshore Facilities Security Act, 2003 (MTOFSA). The port of Brisbane is a security regulated port as specified in the MTOFSA.

In addition to PBPL's Maritime Security Plan, security regulated ships, port facilities and port service providers also have maritime security plans which outline the measures and procedures undertaken to protect vessels that trade in Australian seaports and the port infrastructure that services those vessels.

Buenaventura, Colombia: The port of Buenaventura uses an Access Control System to monitor if the persons entering the port are appropriately identified and to minimise unauthorised access. The Access Control System uses 62 biometric readers, 18 full body and half-body rotating stands, and 23 security fences at vehicle access points which are controlled by a centralised server.

The port also implements a Perimeter Control System to prevent intruders' access through the outside perimeters of the port facilities. The system consists of 4.8 km of sensor cable controlled by 23 processors that interpret the signals received, and then transmit information to the control centre.

The port of Buenaventura has CCTV to monitor and record all port operations and activities. It has 370 fixed and panning cameras distributed throughout the port and 21 digital recorders to store security events 24 hours/day. The system also includes special equipment for monitoring the internal navigation channel under varying visibility conditions.

The port has armed security personnel, consisting of approximately 265-armed security guards and 6 patrol units, by land and sea.

All international maritime regulations International Convention for the Prevention of Pollution from Ships, 1973 as modified by the Protocol of 1978. The International Convention for the Prevention of Pollution from Ships (MARPOL 73/78)] in relation to hydrocarbons, segregation and control of dangerous goods must be complied with at the port of Buenaventura.

Buenos Aires, Argentina: The Port Authority (AGP) maintains an ISPS department responsible for ensuring compliance with ISPS codes and coordinating with security officers and the Coastguard across all terminals, including the cruise terminal.

The regulations applicable include the International Code for the Protection of Ships and Port Facilities (ISPS code), Ordinance 4/2003 (DPSN), and Law 22079.

The Security and Environmental Control Department, under the Quality Management System (ISO) 9001, is dedicated to consistently providing and enhancing inspection services to ensure that the Permissions and Concessionaires of the Port Authority (AGP) comply with the legal framework.

The following details pertain specifically to TRP, but similar security systems are likely in place at other container terminals. Port visits can be arranged directly with the terminal operator without the need for advance provision of full name and identification details. The port employs over 200 security cameras, drones for aerial surveillance, and stores video footage for 365 days. Gates are monitored (CCTV), guarded (guards with radio), and all entries and exits are recorded. Entry and exit procedures involve fingerprinting, biometrics, and full body rotating doors. The Cruise Terminal is a part of Terminal Rio De La Plata (DP World), primarily functioning as a container terminal. Helmets and vests are provided for terminal entry. Each terminal has its own separate gates, and there is no main port entry gate.

Container Terminal Certifications:

- TRP: ISO 28000 (Security Management System for the Supply Chain), ISO 14001 (Environmental Management System), ISO 9001 (Quality Management System), ISO 50001 (Energy Management System), OHSAS 18001 (Occupational Health and Safety Management System).
- TERMINAL 4: ISO 9001:2015
- BACTSSA: ISO 9001, ISO 14001, ISO 27001

Burnie, Australia: The security control measures for the port of Burnie are implemented in line with the requirements of the *Maritime Transport and Offshore Facilities Security Act (MTOFSA) 2003* (Australian Government 2020, internet site). A security regulated port is defined by an area that is used for movement, loading, unloading, maintenance or provisioning of security regulated ships. These areas are fenced with signage that indicates the access restrictions to port facilities and other maritime security zones within the port.

Safe Work Australia's (2012) Code of Practice for Managing Risks of Hazardous Chemicals in the Workplace provides guidance for spill containment requirements for dangerous goods storage facilities/areas. Occupiers storing and handling dangerous goods must ensure that in each area where dangerous goods are stored or handled, provision is made for spill containment that will eliminate the risk from any spill or leak of solid or liquid dangerous goods and must also be able to contain within the premises, the dangerous goods that have been spilled or leaked and any solid or liquid effluent arising from an incident.

Busan, South Korea: The port and vessel security are managed through the International Ship and Port Facility Security Code (ISPS Code). The ISPS Code is a comprehensive set of measures to enhance security of ships and port facilities.

The purpose of the ISPS Code is to provide a standardised, consistent framework for evaluating risk, enabling Governments to offset changes in threat with changes in vulnerability for ships and port facilities through determination of appropriate security levels and corresponding security measures. The ISPS Code takes the approach that ensuring the security of ships and port facilities is a risk management activity and that, to determine what security measures are appropriate, an assessment of the risks must be made in each case.

The port operations for dangerous goods are registered and licensed by the government. Containers departing the port are checked against documentation for matching container numbers and product detail.

The port of Busan has dedicated dangerous goods areas for hazardous goods awaiting loading to arriving vessels. The port is not used for the interim storage of cyanide as it is a transhipping depot used to transfer cyanide containers from trucks to ships.

The cyanide product is packed initially into intermediate bulk containers and then into sealed shipping containers for transport to the port of Busan's Korail Interim Storage Facility where it is stored in a dedicated Dangerous Goods storage facility located in a secure rail shunting yard, pending shipment. All sodium cyanide remains sealed within containers preventing contact with water and other incompatible materials.

Callao, Peru: The National Superintendence of Customs and Tax Administration (SUNAT) Customs office is inside the Port of Callao. The Maritime Customs provides customs services throughout the year, the port works 24 hours every day of the year.

Containers are placarded in accordance with IMDG labelling requirements and storage areas show relevant signage regarding no smoking, no open flames, eating, and drinking is not permitted and the personal protective equipment requirements.

During transhipping, manifests are handed over from the vessel to the terminal operators which include the weight and any hazards associated with the containers. This information is captured in the terminal operator's computer systems, which can identify dangerous goods consignments, determine the class of dangerous goods, and establish the segregation requirements for that product as required by the IMDG Code.

Containers are stored at the port with adequate ventilation to prevent build-up of hydrogen cyanide gas. The product remains sealed in containers at all times and the area of storage is suitable to effectively contain any spillage that may occur. Local specialised responders are on hand to provide assistance in the event of a serious incident.

Transhipping depots and interim storage sites are associated with the port of Callao. During unloading, containers of cyanide may be stored temporarily in designated transhipping depots within the confines of the port. These depots are managed and administered by the terminal operators DP World and or APN respectively.

APM Terminals Callao's Temporary Deposit will handles cargo according to the permitted current regulations, including Imports, Exports, Transshipment (mode 3), and re-embarkation.

Cartagena, Colombia: DIAN is the main government customs agency in Colombia, they have an import procedure for emergencies.

The Control Centre for the port of Cartagena is equipped with computer management systems for alarms, dangerous goods, emergencies, communications, accesses, video surveillance, recording, etc. The port area has a closed perimeter with restricted access that is controlled by the security service and port Police. CCTV is installed, with permanent recording on digital media, connected through fiber optics and centralized at a Control Centre.

The port and vessel security are managed through the International Ship and Port Facility Security Code (ISPS Code). The ISPS Code is a comprehensive set of measures to enhance security of ships and port facilities.

The purpose of the ISPS Code is to provide a standardised, consistent framework for evaluating risk, enabling Governments to offset changes in threat with changes in vulnerability for ships and port facilities through determination of appropriate security levels and corresponding security measures. The ISPS Code takes the approach that ensuring the security of ships and port facilities is a risk management activity and that, to determine what security measures are appropriate, an assessment of the risks must be made in each particular case.

Chalmers (Otago), New Zealand: The port of Chalmers has a statutory obligation to comply with, amongst others, the security requirements of the port's New Zealand Customs (NZC) Procedure Statement, the *Customs and Excise Act 1996* and the *Maritime Security Act 2004*. The primary provisions being laid out in the ISPS Code, particularly *Part 2 Ship and port Facility Security, Subsection 40 – port Facility Security Plans and Part 3 Preventative Security Measures, Subsection 46 – Restrictions with Respect to port Security Areas.*

The *Hazardous Substances and New Organisms Act 1996* (HSNO Act) and its associated *Codes of Practice – HSNOCOP-16, HSNOCOP-28 and HSNOCOP-2* ensure that cyanide is stored securely and with adequate ventilation.

All entry to the port is controlled and subject to the possession of acceptable photographic identification. The port and wharf area are closed to general public access and entering the port facilities is deemed as consent for identification checks and searching. Failure to consent to the security measures in place will result in admittance being denied.

Port Otago Limited and the New Zealand Customs Service together to maintain safe and secure trading conditions. Systems and equipment are in place to provide border security and includes the use of mobile non-invasive inspection technologies. Transporters are subject to compliance requirements.

Conakry, Guinea: Guinea requires a pre-shipment inspection for all imports into the country. This is implemented at the point of loading of the container and the inspection agency seals the container with their own specific seal in addition to the manufacturers own seal provisions.

The port of Conakry is a secure area with an on-site security presence. Security watch is compulsory for all ships carrying sodium cyanide. The port's security is armed and trained to deal with intruders. The port's security presence is a facet of the port's International Ship and Port Facility Security (ISPS) Code protocols.

All cyanide remains within its sealed containers at all times, preventing contact with water and other incompatible materials. The area of transit storage is well segregated and in an open area to prevent the build-up of hydrogen cyanide gas. During periods of transit, containers of solid sodium cyanide are segregated accordingly and stored in a secured and signed area prohibiting smoking, drinking, and eating. All personnel, outside those operating top lift forklifts, are warned to keep away from the containers.

Only solid sodium cyanide is transited via the port of Conakry. A previous due diligence assessment indicated that the area in which the containers are located whilst transiting the port is suitable to effectively contain any spillage of solid sodium cyanide that may occur.

Corinto, Nicaragua: The port is required to meet international standards for security measures as per the IMO and is monitored by the Directorate General of Water Transport (DGTA), EPN. The Corinto Port security and protection is regulated by national security and defence policies as highlighted under chapter VI, security and maritime port protection, Law No. 838 General Law of Ports of Nicaragua. All sodium cyanide remains sealed within containers preventing contact with water and other incompatible materials.

Recent ICMI supply chain Re-Certification Audit reports, as conducted for Draslovka Global Ocean Supply Chain, have found that the Corinto Port is considered a well-operated and secure facility when it comes to minimising the potential for accidental releases of sodium cyanide, and the port is equipped with appropriate facilities and infrastructure.

Da Nang, Vietnam: On November 30, 2020, the Vietnamese Ministry of Industry and Trade issued Circular No. 37/2020/TT-BCT. This circular provides a list of hazardous materials that require packaging during transportation, as well as guidelines for the transportation of these materials by road, rail, and inland waterway.

As per the stipulations of Circular No. 37/2020/TT-BCT:

- Dangerous goods, except for those in group 2, must be packaged according to the three groups (PGI, PG II, PG III) outlined in Appendix II of the circular, provided they are in solid or liquid form.
- Organizations that produce or transport dangerous goods must package these goods in accordance with the provisions of Circular No. 37/2020/TT-BCT and any relevant national technical regulations that have been issued.
- Vehicles carrying dangerous goods must undergo inspection and testing prior to packaging.
- If the volume of dangerous goods being transported exceeds a certain level, an escort is required.

Dakar, Senegal: The Senegal Port Authority states that the port of Dakar has taken significant steps to align its facilities and operations with the directives of the International Convention for the Safety of Life at Sea (SOLAS) 1974, convention. Therefore, every ship applying for permission to enter, and every port facility operator working in the port of Dakar must ensure compliance with the security and safety requirements for ships and port facilities as issued by the IMO.

The Port of Dakar has:

- A centralised navigation aid at the harbor lookout, equipped with an Automated Identification System (AIS) and functional mark-up structures.
- A surveillance system for the harbor and the water plan using radars, remote monitoring systems and nautical patrols.
- 450 officers trained in International Ship and Port Facility Security Code (ISPS) code standards and the reinforcing of perimeter and access point security measures.

- Security measures for access and the port enclosure with the setting up of a multi-purpose operational centre equipped with high-tech surveillance equipment IMO.

The Port of Dakar contains 112.5 thousand square metres of open surface storage, 48.8 thousand square metres of covered storage space, and 15 thousand square metres of cold stores. In addition, it has 13 hectares of surface for storing containers.

Dar es Salaam, Tanzania: The port of Dar es Salaam is accredited under the International Ship and port Security (ISPS) Code and is classed as a secure area. Access to and from the container terminal is well controlled and areas used for cyanide storage may be subject to an additional security presence. The port security egress checkpoint checks a driver's documentation to ensure approval has been granted for the removal of the container, that the container number physically matches with the documentation and that the seal is intact on the shipping container.

Cyanide on arrival is placed in a segregated area whilst awaiting relevant clearances. This area is clearly signed providing appropriate warning to all port personnel. Collection of the cargo by the approved carrier is direct from this area. Vehicles collecting cargo from the port environs are subject to port checks to ensure that approvals for collection are in place and that documentation and container details match prior to egress from the port. Additionally, signage is displayed prohibiting smoking and the consumption of foodstuffs and liquids in the areas where hazardous goods are being stored.

Sodium cyanide product remains sealed inside its container at all times. Containers are in a segregated area which is open to the air to prevent the build-up of hydrogen cyanide gas.

Fremantle, Australia: The storage of cyanide is managed under the following:

- AS 3846 The handling and transport of dangerous cargoes in port areas
- Western Australian legislation *including Dangerous Goods Safety Act 2004*, *Port Authorities Act 1999, Occupational Safety and Health Act 1984*, and associated regulations.
- National legislation including *Navigation Act 2012 and Marine Orders, and Protection of the Sea (Prevention of Pollution from Ships) Act 1983*
- The International Maritime Dangerous Goods Code (IMDG Code) and other relevant IMO Codes, and the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG Code,) Australian Code for the Transport of Explosives by Road and Rail (AE Code)
- Risk assessments undertaken in respect of dangerous cargoes in the port as well as specific cargo operations such as anhydrous ammonia, bulk liquified petroleum gas (LPG) and ammonium nitrate.

Packing Groups serve a crucial function in indicating the level of danger posed by toxic substances. Substances classified under Packing Group I, like sodium cyanide, are highly toxic. Dangerous cargoes Packing Group I in quantities exceeding 500 kg are only permitted to remain in the berth area for a maximum of 12 hours. In addition, Fire and emergency resources need to be appropriate for the type, class, packing group and quantity of dangerous cargoes.

Gladstone, Australia: All sodium cyanide transited through the port of Gladstone remains contained within its sealed containers at all times preventing contact with water and other incompatible materials. A review of recent aerial imagery showed that the container storage area is fenced with a secure entrance and a boom gate.

GPC is responsible for the security and protection of the port's infrastructure and assets, and the provision of risk-based security services.

In general, port and vessel security are managed through the International Ship and port Facility Security Code (ISPS Code). The ISPS Code is a comprehensive set of measures to enhance security of ships and port facilities, regulated by the *Maritime Transport and Offshore Facilities Security Act, 2003* (MTOFSA). This act requires the establishment of maritime security zones in and around the port and wharf facilities as part of GPC's maritime security plans. These regulated zones place restrictions and limitations on who may enter.

In addition to GPC's maritime security plan, security regulated ships, port facilities and port service providers also have maritime security plans which outline the measures and procedures undertaken to protect vessels that trade in Australian seaports and the port infrastructure that services those vessels.

The Landside Restricted Zones (LRZ) for GPC managed facilities within the port of Gladstone include the wharves and wharf approaches. To enter these areas, a person must have authorisation to do so and produce and display a current GPC identification card and a Maritime Security Identification Card (MSIC). The Maritime Security Identification Card (MSIC) is a nationally recognised identity card which identifies the holder as a person who has met the necessary background requirements to work in a maritime security zone. It shows that the holder has met the minimum security requirements to work unescorted or unmonitored in a maritime security zone and is not considered a threat to maritime security. Entry to all other areas of a facility will require authorisation and a current GPC ID card.

The zone will be in force one hour prior to a Security Regulated Ship berthing at a facility. The zone will remain in force until the Security Regulated Ship has intentionally let go its moorings and has cleared the berth by no less than 400 m. The zone will be in force at all maritime security levels.

There are Restricted Zones in place around all berths within the port of Gladstone. These zones are operational at all times of the day and night. These zones include a distance of 60 m from the seaward face of a berth and 20 m from the most westerly, easterly, approach and landside face of a berth, inclusive from the high-water mark to the sea bed. Unauthorised entry into these zones is an offence under both State and Commonwealth legislation Gladstone Ports Corporation.

Guaymas, Mexico: The port of Guaymas must adhere to the requirements of Official Mexican Standard NOM-010-SCT2/2009 -Compatibility and segregation provisions for the Storage and transportation of hazardous substances, materials and waste and NOM-023-SCT4-1995 Conditions for the management and Storage of dangerous goods in ports, terminals and sea units. These standards state that ports, terminals and offshore units must establish areas for management, storage and adequate segregation of dangerous goods in bulk or packed form, from other cargo. There is a compatibility and segregation table for dangerous substances, materials and waste. These storage areas must have the appropriate infrastructure, facilities and signage on display in accordance with the inherent risks of the products.

The port or terminal operator must ensure that the areas where goods are handled and stored always be monitored and that personnel involved in such operations have received adequate training. The operator shall keep a permanent record of any dangerous goods encountered in the port area and will ensure that in the areas where the products are handled and stored, personnel have accessible information on emergency procedures.

All sodium cyanide remains sealed within containers preventing contact with water and other incompatible materials. The standards also ensure that in such areas signage is displayed to show smoking is prohibited, sources of ignition are avoided and proper precautions are taken with regards to personal protective equipment for the handling of dangerous goods.

Haiphong, Vietnam: On November 30, 2020, the Vietnamese Ministry of Industry and Trade issued Circular No. 37/2020/TT-BCT. This circular provides a list of hazardous materials that require packaging during transportation, as well as guidelines for the transportation of these materials by road, rail, and inland waterway.

As per the stipulations of Circular No. 37/2020/TT-BCT:

- Dangerous goods, except for those in group 2, must be packaged according to the three groups (PGI, PG II, PG III) outlined in Appendix II of the circular, provided they are in solid or liquid form.
- Organizations that produce or transport dangerous goods must package these goods in accordance with the provisions of Circular No. 37/2020/TT-BCT and any relevant national technical regulations that have been issued.
- Vehicles carrying dangerous goods must undergo inspection and testing prior to packaging.
- If the volume of dangerous goods being transported exceeds a certain level, an escort is required.

Ho Chi Minh City, Vietnam: On November 30, 2020, the Vietnamese Ministry of Industry and Trade issued Circular No. 37/2020/TT-BCT. This circular provides a list of hazardous materials that require packaging during transportation, as well as guidelines for the transportation of these materials by road, rail, and inland waterway.

As per the stipulations of Circular No. 37/2020/TT-BCT:

- Dangerous goods, except for those in group 2, must be packaged according to the three groups (PGI, PG II, PG III) outlined in Appendix II of the circular, provided they are in solid or liquid form.
- Organizations that produce or transport dangerous goods must package these goods in accordance with the provisions of Circular No. 37/2020/TT-BCT and any relevant national technical regulations that have been issued.
- Vehicles carrying dangerous goods must undergo inspection and testing prior to packaging.
- If the volume of dangerous goods being transported exceeds a certain level, an escort is required.

Honiara, Solomon Islands: Solomon Ports operates under the International Ship and Port Facility Security (ISPS) Code, a global standard for enhancing the security of ships and port facilities. In compliance with the ISPS code and the SOE Act, Solomon Ports reports security matters to the Solomon Islands Maritime Safety Administration (SIMSA), a government entity that handles maritime issues in the Solomon Islands.

Security at Solomon Ports is categorised into three levels:

- Level 1: Normal operations with standard security measures.
- Level 2: Specific threat identified, leading to the implementation of targeted security measures.
- Level 3: High security risk, resulting in the cessation of normal operations.

Access to Solomon Ports is restricted by a perimeter fence. The authorised entry points are the exit gatehouse for pedestrians and the front entry gate for vehicles. The ISPS office can be contacted at 42362, and applications for ID and vehicle passes can be made online. Security measures at these access points include ID card checks, gatehouse signage, closed-circuit television (CCTV), and vehicle passes.

A restricted buffer zone of 50 metres is maintained from the wharf or any vessel docked at the wharf. All wharfs, from domestic to international, are designated as fishing-free zones. The public is strictly forbidden from fishing or diving in these areas, with penalties applicable for violations.

Izmir, Turkey: Open yard storage facilities at Izmir consist of nearly 215,940 m^2 and 27, 000 m^2 covered areas including a designated hazardous cargo warehouse. Storage in transit may occur if receipt at the port is delayed. Cargo handling and storage services are provided at the port using modern equipment and staff 7 days a week, 24 hours a day. The International Ship and Port Facility Security Code (ISPS) is implemented and security and access control are provided at the port including CCTV, controlled access points and perimeter security.

Jakarta, Indonesia: Port and vessel security are managed through the International Ship and port Facility Security Code (ISPS Code). The ISPS Code is a comprehensive set of measures to enhance security of ships and port facilities. All vessels calling at Indonesian ports must meet ISPS requirements.

The purpose of the ISPS Code is to provide a standardised, consistent framework for evaluating risk, enabling Governments to offset changes in threat with changes in vulnerability for ships and port facilities through determination of appropriate security levels and corresponding security measures. The ISPS Code takes the approach that ensuring the security of ships and port facilities is a risk management activity and that, to determine what security measures are appropriate, an assessment of the risks must be made in each case.

The port of Jakarta operates under a suite of National regulations that ensure compliance with the above. For the handling and storage of dangerous goods, these regulations ensure that shipments of cyanide are authorised for discharge from the vessel, handled by appropriately trained personnel, stored in designated and secured areas, segregated according to dangerous goods classes, and removed from the port in a timely manner. As per the 'Regulation of the Minister of Trade No. 7 of 2022', regarding the distribution and control of hazardous substances, consignors for the distribution of certain hazardous substance and are required to obtain a permit to handle hazardous goods and must report the distribution results to the regulatory authority.

The port has restricted access, and the Dispatch Centre organises ship movements, tracks pilotage operations, and supervises terminal operations via real-time CCTV monitoring. All sodium cyanide transited through the port of Jakarta always remains sealed within containers.

Security requirements are also addressed under National regulations and the port of Jakarta satisfies the conditions set out for security personnel and check points, monitoring, and surveillance systems.

Lae, Papua New Guinea: In general, port and vessel security are managed through the International Ship and Port Facility Security Code (ISPS Code). The ISPS Code is a comprehensive set of measures to enhance security of ships and port facilities and provides a standardised, consistent framework for evaluating risk, enabling Governments to offset changes in threat with changes in vulnerability for ships and port facilities through determination of appropriate security levels and corresponding security measures. The ISPS Code takes the approach that ensuring the security of ships and port facilities is a risk management activity and that, to determine what security measures are appropriate, an assessment of the risks must be made in each case.

As a state member of IMO and The International Convention for the Prevention of Pollution from Ships (MARPOL) 73/78, it ensures the requirements for inspection and reporting of an incident involving harmful substance.

The Marchant Shipping (Dangerous Goods) Regulation 2007 of New Papua Guinea requires any dangerous goods to be thoroughly inspected to avoid leakages or spillage before taking over. PNG ports work to the requirements of the International Maritime Organization's International Ship and port Facility Security Code.

Laem Chabang, Thailand: Port and vessel security are managed through the International Ship and port Facility Security Code (ISPS Code). The ISPS Code is an internationally recognised, comprehensive set of measures aimed at enhancing the security of ships and port facilities. The purpose of the ISPS Code is to provide a standardised, consistent framework for evaluating risk, enabling Governments to offset changes in threat with changes in vulnerability for ships and port facilities through a determination of appropriate security levels and corresponding security measures.

As per Clause 9, 10 and 11 of Ministerial Regulation B.E. 2537 (1994) Produce, Import, Export or have in Possession Hazardous Substances) the Port of Laem Chabang has a dedicated dangerous goods warehouse for the storage of specialised products including sodium cyanide. Sodium cyanide transited through the Port of Laem Chabang is temporary and remains on site for less than a day. This is a management measure to minimise potential for accidental releases during storage. Sodium cyanide is considered a Class 3 Dangerous Goods item and when discharged from a vessel is taken immediately to the Dangerous Goods Warehouse.

All sodium cyanide transited through the port of Laem Chabang remains contained within its sealed containers at all times preventing contact with water and other incompatible materials.

Lazaro Cardenas, Mexico: The port of Lazaro Cardenas must adhere to the requirements of Official Mexican Standard NOM-010-SCT2/2009 -Compatibility and segregation provisions for the Storage and transportation of hazardous substances, materials and waste and NOM-023-SCT4-1995 Conditions for the management and Storage of dangerous goods in ports, terminals and sea units.

These standards state that ports, terminals, and offshore units must establish areas for management, storage and adequate segregation of dangerous goods in bulk or packed form from other cargo. There is a compatibility and segregation table for dangerous substances, materials, and waste. These storage areas must have the appropriate infrastructure, facilities, and signage on display in accordance with the inherent risks of the products. Available services applied to the port of Lazaro Cardenas are:

- Controlled points of access/egress, perimeter fences, anchorages, maneuver areas and berthing.
- Facilities for cargo, storage areas and load handling equipment.
- System of electrical distribution networks, telecommunications, and computer networks.
- Vessels serving the port (tugs)
- Surveillance equipment and protection system (automated closed-circuit television (CCTV) systems).

Lihir Island, Lihir: In general, port and vessel security are managed through the International Ship and Port Facility Security Code (ISPS Code). The ISPS Code is a comprehensive set of measures to enhance security of ships and port facilities and provides a standardised, consistent framework for evaluating risk, enabling Governments to offset changes in threat with changes in vulnerability for ships and port facilities through determination of appropriate security levels and corresponding security measures. The ISPS Code takes the approach that ensuring the security of ships and port facilities is a risk management activity and that, to determine what security measures are appropriate, an assessment of the risks must be made in each case.

As a state member of IMO and The International Convention for the Prevention of Pollution from Ships (MARPOL) 73/78, it ensures the requirements for inspection and reporting of an incident involving harmful substance.

The Marchant Shipping (Dangerous Goods) Regulation 2007 of New Papua Guinea requires any dangerous goods to be thoroughly inspected to avoid leakages or spillage before taking over. PNG ports work to the requirements of the International Maritime Organization's International Ship and port Facility Security Code.

Lyttelton, New Zealand: Hazardous substances are managed in accordance with local regulations, including the Maritime Transport Act 1994, The Hazardous Substances and New Organisms Act 1996 (HSNO) and the Health and Safety at Work (Hazardous Substances) Regulations 2017.

The port has a statutory obligation to comply with, amongst others, the security requirements of the port's New Zealand Customs (NZC) Procedure Statement, the *Customs and Excise Act 1996* and the *Maritime Security Act 2004*. The primary provisions being laid out in the International Ship and Port Facility Security (ISPS) Code, particularly *Part 2 Ship and port Facility Security, Subsection 40 – port Facility Security Plans and Part 3 Preventative Security Measures, Subsection 46 – Restrictions with Respect to port Security Areas.*

All sodium cyanide remains sealed within containers preventing contact with water and other incompatible materials.

Manzanillo, Mexico: The port of Manzanillo must adhere to the requirements of Official Mexican Standard NOM-010-SCT2/2009 – Compatibility and segregation provisions for the Storage and transportation of hazardous substances, materials, and waste and NOM-023-SCT4-1995 Conditions for the management and Storage of dangerous goods in ports, terminals and sea units.

These standards state that ports, terminals, and offshore units must establish areas for management, storage, and adequate segregation of dangerous goods in bulk or packed form, from other cargo. There is a compatibility and segregation table for dangerous substances, materials, and waste. These storage areas must have the appropriate infrastructure, facilities, and signage on display in accordance with the inherent risks of the products.

The port or terminal operator must ensure that the areas where goods are handled and stored always be monitored and that personnel involved in such operations have received adequate training. The operator shall keep a permanent record of any dangerous goods encountered in the port area and will ensure that in the areas where the products are handled and stored, personnel have accessible information on emergency procedures.

All sodium cyanide remains sealed within containers preventing contact with water and other incompatible materials. The standards also ensure that in such area's signage is displayed to show smoking is prohibited, sources of ignition are avoided, and proper precautions are taken with regards to personal protective equipment for the handling of dangerous goods.

Melbourne, Australia: In response to the risk of terrorism, the Commonwealth Government of Australia has interpreted the International Ship and Port Facility and Security (ISPS) Code, through its introduction of the Maritime Transport and Offshore Facilities Security Act (MTOFSA) and Regulation 2003. The port of Melbourne is a security regulated port as set out in the MTOFSA.

The port of Melbourne is responsible for all security related issues for the terminals which it manages, Port Facility Security Officers are responsible for all other terminals.

Worksafe Victoria's (2022) *Code of Practice for the Storage and Handling of Dangerous Goods* provides guidance for spill containment requirements for dangerous goods storage facilities/areas. Occupiers storing and handling dangerous goods must ensure that in each area where dangerous goods are stored or handled, provision is made for spill containment that will eliminate the risk from any spill or leak of solid or liquid dangerous goods and must also be able to contain within the premises, the dangerous goods that have been spilled or leaked and any solid or liquid effluent arising from an incident.

Unless kept in a restricted area, quantities of dangerous goods exceeding 500 kg are delivered to, and removed from, the designated berths or storage areas within 12 hrs of being loaded/unloaded from a vessel. Sodium cyanide transited through the port of Melbourne is temporary and remains on site for less than 12 hours, as required. This is a management measure to minimise potential for accidental releases during storage. All sodium cyanide transited through the port of Melbourne remains contained within its sealed containers at all times preventing contact with water and other incompatible materials.

Mersin, Turkey: The Port of Mersin has a continuous security and operational monitoring system, the overall running of which is controlled via the centralised TOS. There are CCTV cameras at numerous points within the port, and entry/exiting is controlled through biometric identification cards. The port has introduced container seal control application system which ensure full container seal control is made and is International Ship and Port Facility Security (ISPS) code certified.

Monrovia, Liberia: The product transferred through the port is solid cyanide within intermediate bulk containers (IBCs) and within a shipping container, the containers remain sealed which significantly reduces the potential for a cyanide release scenario. There are no storage facilities at the port of Monrovia for cyanide containers. Where authorisation for import is granted, containers must be transported outside of the port operational area upon discharge.

Port Moresby, Papua New Guinea: In general, port and vessel security are managed through the International Ship and Port Facility Security Code (ISPS Code). The ISPS Code is a comprehensive set of measures to enhance security of ships and port facilities and provides a standardised, consistent framework for evaluating risk, enabling Governments to offset changes in threat with changes in vulnerability for ships and port facilities through determination of appropriate security levels and corresponding security measures. The ISPS Code takes the approach that ensuring the security of ships and port facilities is a risk management activity and that, to determine what security measures are appropriate, an assessment of the risks must be made in each case.

As a state member of IMO and The International Convention for the Prevention of Pollution from Ships (MARPOL) 73/78, it ensures the requirements for inspection and reporting of an incident involving harmful substance.

The Marchant Shipping (Dangerous Goods) Regulation 2007 of New Papua Guinea requires any dangerous goods to be thoroughly inspected to avoid leakages or spillage before taking over. PNG ports work to the requirements of the International Maritime Organization’s International Ship and port Facility Security Code.

Nhava Sheva, China: In general, port and vessel security are managed through the International Ship and Port Facility Security Code (ISPS Code). The ISPS Code is a comprehensive set of measures to enhance security of ships and port facilities. The purpose of the ISPS Code is to provide a standardised, consistent framework for evaluating risk, enabling Governments to offset changes in threat with changes in vulnerability for ships and port facilities through determination of appropriate security levels and corresponding security measures. The ISPS Code takes the approach that ensuring the security of ships and port facilities is a risk management activity and that, to determine what security measures are appropriate, an assessment of the risks must be made in each case.

Ningbo, China: The port of Ningbo has a dedicated dangerous goods transit area for dangerous goods awaiting loading to arriving vessels. Appropriate signage is displayed in this area, as required by IMDG codes. The port operations for dangerous goods are registered and licensed by the government.

The port is listed on the International Ship and Port Facility Security (ISPS) site as accredited. An electronic card access system is in place to enable only authorised access to the port area. Containers departing the port are checked against documentation for matching container numbers and product detail.

Palu, Indonesia: In general, port and vessel security are managed through the International Ship and Port Facility Security Code (ISPS Code). The ISPS Code is a comprehensive set of measures to enhance security of ships and port facilities and is mandatory for the SOLAS signatory countries.

The purpose of the ISPS Code is to provide a standardised, consistent framework for evaluating risk, enabling Governments to offset changes in threat with changes in vulnerability for ships and port facilities through determination of appropriate security levels and corresponding security measures. The ISPS Code takes the approach that ensuring the security of ships and port facilities is a risk management activity and that, to determine what security measures are appropriate, an assessment of the risks must be made in each case.

The Pantoloan Port of Palu was marked as ISPS compliant as of 2018 before the earthquake.

Puerto Angamos, Chile: In general, port and vessel security are managed through the International Ship and Port Facility Security Code (ISPS Code). The ISPS Code is a comprehensive set of measures to enhance security of ships and port facilities.

The purpose of the ISPS Code is to provide a standardised, consistent framework for evaluating risk, enabling Governments to offset changes in threat with changes in vulnerability for ships and port facilities through determination of appropriate security levels and corresponding security measures. The ISPS Code takes the approach that ensuring the security of ships and port facilities is a risk management activity and that, to determine what security measures are appropriate, an assessment of the risks must be made in each case.

The port of Puerto Angamos aims to have dangerous cargo placed directly onto a trailer and removed from the facility via an ICMI certified transporter, and under escort of the Port Authority. However, when this cannot occur, the port has a dedicated storage area for specialised products including dangerous goods. Cyanide containers are segregated and stacked separately according to the provisions of the Code and all sodium cyanide remains sealed within containers preventing contact with water and other incompatible materials.

Puerto Cortes, Honduras: In general, port and vessel security are managed through the International Ship and Port Facility Security Code (ISPS Code). The ISPS Code is a comprehensive set of measures to enhance security of ships and port facilities.

The purpose of the ISPS Code is to provide a standardised, consistent framework for evaluating risk, enabling Governments to offset changes in threat with changes in vulnerability for ships and port facilities through determination of appropriate security levels and corresponding security measures. The ISPS Code takes the approach that ensuring the security of ships and port facilities is a risk management activity and that, to determine what security measures are appropriate, an assessment of the risks must be made in each case.

The port of Puerto Cortes aims to have dangerous cargo placed directly onto a trailer and removed from the facility via an ICMI certified transporter, and under escort of the Port Authority (WSP Australia Pty Ltd, 2023). However, when this cannot occur, the port has a dedicated storage area for specialised products including dangerous goods. Cyanide containers are segregated and stacked separately according to the provisions of the Code and all sodium cyanide remains sealed within containers preventing contact with water and other incompatible materials.

Puerto Deseado, Argentina: In general, port and vessel security are managed through the International Ship and Port Facility Security Code (ISPS Code). The ISPS Code is a comprehensive set of measures to enhance security of ships and port facilities.

The purpose of the ISPS Code is to provide a standardised, consistent framework for evaluating risk, enabling Governments to offset changes in threat with changes in vulnerability for ships and port facilities through determination of appropriate security levels and corresponding security measures. The ISPS Code takes the approach that ensuring the security of ships and port facilities is a risk management activity and that, to determine what security measures are appropriate, an assessment of the risks must be made in each particular case.

The port of Puerto Deseado operates under a suite of International and National regulations that ensures its compliance with regards to the handling and storage of dangerous goods. Sodium cyanide transited through the port of Puerto Deseado is temporary and remains on site for less than a day. This is a management measure to minimise potential for accidental releases during storage. All sodium cyanide transited through the port of Puerto Deseado always remains sealed in containers preventing contact with water and other incompatible materials.

Puntas Arenas, Chile: In general, port and vessel security are managed through the International Ship and Port Facility Security Code (ISPS Code). The ISPS Code is a comprehensive set of measures to enhance security of ships and port facilities.

The purpose of the ISPS Code is to provide a standardised, consistent framework for evaluating risk, enabling Governments to offset changes in threat with changes in vulnerability for ships and port facilities through determination of appropriate security levels and corresponding security measures. The ISPS Code takes the approach that ensuring the security of ships and port facilities is a risk management activity and that, to determine what security measures are appropriate, an assessment of the risks must be made in each case.

The port of Punta Arenas aims to have dangerous cargo placed directly onto a trailer and removed from the facility via an ICMI certified transporter, and under escort of the Port Authority. However, when this cannot occur, the port has a dedicated storage area for specialised products including dangerous goods. Cyanide containers are segregated and stacked separately according to the provisions of the Code and all sodium cyanide remains sealed within containers preventing contact with water and other incompatible materials.

The port has full CCTV coverage, is fully lit at night and the whole of the port area has controlled access.

Rockhampton (Formerly port of Alma), Australia: Cyanide transited through the port of Rockhampton is temporary and remains on site for a short period of time. This is a management measure to minimise potential for accidental releases during storage. All sodium cyanide transited through the port of Rockhampton is segregated and always remains sealed within containers preventing contact with water and other incompatible materials. GPC has secure container yards available for use. These areas are concreted, secured via a perimeter fence and under floodlights at night.

The port and vessel security are managed through the International Ship and port Facility Security Code (ISPS Code). The ISPS Code is a comprehensive set of measures to enhance security of ships and port facilities, regulated by the *Maritime Transport and Offshore Facilities Security Act, 2003.*

GPC has an approved Maritime Security Plan as required under the *Maritime Transport and Offshore Facilities Security Act, 2003*. A ship's master, prior to entering the port of port Alma, must report directly to the port authority or via their respective ship agency the following:

- ISPS Code compliance number
- Current ship security level or any change to the ship security level whilst in the port
- List of expected visitors/contractors
- Nominated stevedore
- Crew list and identification
- Any security incident (as defined under the ISPS Code or maritime transport security legislation) whilst in port.

The *Maritime Transport and Offshore Facilities Security Act and Regulations 2003* also requires the establishment of maritime security zones in and around the port and wharf facilities as part of maritime security plans. These regulated zones have been established at the port of Rockhampton and place restrictions and limitations on who may enter both land and marine side restricted zones.

Santos, Brazil: The port of Santos is International Ship and Port Security (ISPS) certified. The ISPS Code is a comprehensive set of measures to enhance security of ships and port facilities.

The purpose of the ISPS Code is to provide a standardised, consistent framework for evaluating risk, enabling Governments to offset changes in threat with changes in vulnerability for ships and port facilities through determination of appropriate security levels and corresponding security measures. The ISPS Code takes the approach that ensuring the security of ships and port facilities is a risk management activity and that, to determine what security measures are appropriate, an assessment of the risks must be made in each case.

The Brazilian Navy has initiated a Law-and-Order Guarantee Operation (GLO) at the Port of Santos to enhance security and combat drug and weapons trafficking. A total of 535 military personnel is conducting preventive and repressive actions, including searches of personnel and vehicles. The operation utilises high-tech equipment like sensors, radars, and thermal imaging cameras to improve surveillance and detection capabilities.

Relevant warning signage is provided at the Port of Santos. Containers are placarded in accordance with the requirements of the IMDG Code labelling requirements displaying the relevant warning and safety detail.

All gates at the terminal are under surveillance and protected, with the terminal area enclosed by fences. Terminal gates are guarded and monitored, and the terminal borderline is fenced. If access to the wharf area is required, prior authorisation from Companhia Docas do Estado de Sao Paulo (CODESP) is necessary to access a secondary gate patrolled by Santos Port Guard. Under the authority of CODESP, the Port Guard is responsible for security and property surveillance. Their duties extend to public port security measures, access control for people, vehicles, and cargo, internal traffic management, and the prevention and suppression of illegal activities. Access control is implemented through 37 gates spread across the port docks, along with 16 additional surveillance points outside the designated restricted areas.

Shanghai, China: Shipping containers containing composite intermediate bulk containers (IBCs) are placarded in accordance with the IMDG Code labelling requirements displaying relevant warning and safety information including the environmentally hazardous substance label. Signage prohibiting smoking, open flames and eating and drinking are in place, as well as PPE requirements.

The port of Shanghai has a dedicated dangerous goods transit area for dangerous goods awaiting loading to arriving vessels. Appropriate signage is displayed in this area, as required by IMDG codes. The port operations for dangerous goods are registered and licensed by the government. The port has in place minimum requirements for personal protective equipment that includes the requirements for suitable protective footwear, safety helmet where required and readily visible clothing.

The port is listed on the International Ship and Port Facility Security (ISPS) site as accredited. An electronic card access system is in place to enable only authorised access to the port area. Containers departing the port are checked against documentation for matching container numbers and product detail.

All sodium cyanide transited through the port of Shanghai remains contained within its sealed containers at all times and are placed in an area that is well ventilated to prevent the build-up of hydrogen cyanide gas. The area where the containers are placed is considered suitable to effectively contain any spillage that may happen.

The port took several measures to enhance the management of dangerous goods, such as the followings:

- Inspecting the licenses of operators and equipment
- Inspecting and replenishing the emergency supplies
- Inspecting and maintaining the fire protection equipment, CCTV, and fence for dangerous goods
- Training staff involving dangerous goods on emergency equipment using, and
- Conducting emergency drills.

Sihanoukville, Cambodia: In general, port and vessel security are managed through the International Ship and Port Facility Security Code (ISPS Code). The ISPS Code is a comprehensive set of measures to enhance security of ships and port facilities.

The purpose of the ISPS Code is to provide a standardised, consistent framework for evaluating risk, enabling Governments to offset changes in threat with changes in vulnerability for ships and port facilities through determination of appropriate security levels and corresponding security measures. The ISPS Code takes the approach that ensuring the security of ships and port facilities is a risk management activity and that, to determine what security measures are appropriate, an assessment of the risks must be made in each particular case. To safeguard vessel management the installation of Vessel Traffic Management System, navigational buoys and maintenance of vessel channels were installed.

Singapore, Singapore: In general, port and vessel security are managed through the International Ship and Port Facility Security Code (ISPS Code). The ISPS Code is a comprehensive set of measures to enhance security of ships and port facilities.

The purpose of the ISPS Code is to provide a standardised, consistent framework for evaluating risk, enabling Governments to offset changes in threat with changes in vulnerability for ships and port facilities through determination of appropriate security levels and corresponding security measures. The ISPS Code takes the approach that ensuring the security of ships and port facilities is a risk management activity and that, to determine what security measures are appropriate, an assessment of the risks must be made in each case.

Surabaya, Indonesia: The port and vessel security are managed through the International Ship and Port Facility Security Code (ISPS Code). The ISPS Code is a comprehensive set of measures to enhance security of ships and port facilities.

The purpose of the ISPS Code is to provide a standardised, consistent framework for evaluating risk, enabling Governments to offset changes in threat with changes in vulnerability for ships and port facilities through determination of appropriate security levels and corresponding security measures. The ISPS Code takes the approach that ensuring the security of ships and port facilities is a risk management activity and that, to determine what security measures are appropriate, an assessment of the risks must be made in each case.

The port operates under a suite of National regulations that ensure compliance with the above. For the handling and storage of dangerous goods, these regulations ensure that shipments of cyanide are authorised for discharge from the vessel, handled by appropriately trained personnel, stored in designated and secured areas, segregated according to dangerous goods classes, and removed from the port in a timely manner. As per the 'Regulation of the Minister of Trade No. 7 of 2022', regarding the distribution and control of hazardous substances, consignors for the distribution of certain hazardous substance and are required to obtain a permit to handle hazardous goods and must report the distribution results to the regulatory authority.

The port has restricted access, and the Dispatch Centre organises ship movements, tracks pilotage operations, and supervises terminal operations via real-time CCTV monitoring. All sodium cyanide transited through the port of Jakarta always remains sealed within containers.

Takoradi, Ghana: The Port of Takoradi is accredited under the International Ship and Port Facility Security (ISPS) Code (since 2004). This is maintained by the GPHA which reports to the appropriate central Ghana government minister. The port has an on-site security presence always and includes a mobile security team. Port security personnel stationed at the access to the port check the authority of drivers accessing the port area.

The *Ghana Maritime Security Act (2004), Section 48 Port Security* states that a port facility operator shall develop, implement, and maintain a port facility security plan based on a port facility security assessment of that facility. The design of a port facility security plan must suit the purposes of ship-port interface and protect that facility from unauthorised access or disclosure. The Government of the Republic of Ghana has taken the decision to phase out Pre-Shipment Inspection (PSI) and to implement a Destination Inspection Scheme. Mandated by the Ministry of Trade and Industry (MOTI) regulated by the Export and Import Act, 1995 (Act 503) Export and Import (Amendment) Act, 2000.

All sodium cyanide transited through the Port of Takoradi always remains sealed inside its container preventing contact with water and other incompatible materials. Seals are individually numbered and tamper.

Admission of solid sodium cyanide through the Port of Takoradi is limited to a specific customer. Solid sodium cyanide is only held at the Port of Takoradi for a short period to enable completion of specific Ghanaian governmental customs and quarantine clearances. Importers are penalised substantial charges should any delay in remove of the product occurs. The port provides a dedicated area for workers to eat and drink which is well away from the area in which the product is located.

Tanjung Pelepas, Malaysia: In general, port and vessel security are managed through the International Ship and Port Facility Security Code (ISPS Code). The ISPS Code is a comprehensive set of measures to enhance security of ships and port facilities and is mandatory for the SOLAS signatory countries.

The purpose of the ISPS Code is to provide a standardised, consistent framework for evaluating risk, enabling Governments to offset changes in threat with changes in vulnerability for ships and port facilities through determination of appropriate security levels and corresponding security measures. The ISPS Code takes the approach that ensuring the security of ships and port facilities is a risk management activity and that, to determine what security measures are appropriate, an assessment of the risks must be made in each case.

Tauranga, New Zealand: The Port of Tauranga has a statutory obligation to comply with the *port's New Zealand Customs (NZC) Procedure Statement*, the *Customs and Excise Act 1996* (New Zealand Customs Service 1996), International Ship and Port Facility Security (ISPS) Code and the *Maritime Security Act 2004.*

For the import of dangerous goods, the port enforces either a Direct to Motor Vehicle (DMV) or L&R process. Allowable dwell times are specified based on dangerous goods class and UN numbers; the dwell time commences from the time the container is discharged onto the wharf. The sodium cyanide allowable dwell time is 72 hours.

Maritime New Zealand is responsible for the enforcement of both the Hazardous Substances and New Organisms (HSNO) Act and Health and Safety at Work Act on board ships but not on land within ports The harbour and port SMSs address the safe handling and notifications of dangerous goods and harmful substances on board ships in the harbour and at the berth. This includes dangerous goods and hazardous substances that may be in transit to other locations but are not being loaded or unloaded.

The entire area within the Port of Tauranga security fence line is a designated Customs Controlled Area (CCA) and the port is required to monitor and control all persons entering the CCA.

Access to the wharf area is restricted to authorised persons only. Entry on to the port area is controlled by barrier arms at all road gates. Surrounding roads, Rata Street and Tasman Quay gates are only open to heavy vehicles and light vehicles carrying security access cards. The Hull Road gate is manned 24 hours a day, seven days per week, and is monitored by a Customer Service Centre. Only heavy vehicles, authorised persons and visitors with legitimate business reason are permitted on to the port. The gate at Sulphur Point on the Tauranga side of the harbour is manned 24 hours per day.

Dangerous goods are stored in accordance with the detailed management procedures as specified in the Dangerous Goods and Hazardous Substances Code of Practice Section 5. At least two (2) days before the arrival of a vessel, the Agent or Stevedore is to supply a copy of the dangerous goods declaration for every consignment which carries an IMDG classification. Cargo containing dangerous goods is stored in pre-planned positions. There are a series of maps which indicate which classes of dangerous goods can be stored.

Associated Codes of Practice – HSNOCOP-16, HSNOCOP-28 and HSNOCOP-2 ensure that cyanide is stored securely and with adequate ventilation.

Tema, Ghana: As per the previous Detailed Audit Report, the Port of Tema has restricted access and security processes, including optimal character recognition, biometric identify cards and CCTV. The port has perimeter fencing and terminal entry and exit gates are monitored on 24-hour basis. Software programs control container movement through the ports.

The Port of Tema has dedicated storage areas for specialised products including dangerous goods; cyanide containers are segregated and stacked separately. The area into which cyanide containers are placed whilst awaiting clearance is well ventilated to prevent the build-up of hydrogen cyanide gas and is suitable to contain any spillage that may occur.

Whilst cyanide is present at the port, temporary signage is provided to warn of its presence and the safety and personal protective equipment requirements. Whilst the product is being stored or handled, signage prohibiting the consumption of food and beverages and open sources of ignition, including smoking, is displayed.

All sodium cyanide transited through the port of Tema remains sealed inside its container at all times. Seals are individually numbered and tamper evident. Admission of solid sodium cyanide through the Port of Tema is limited to a specific customer. Solid sodium cyanide is only held at the port of Tema for a short period to enable completion of specific Ghanaian governmental customs and quarantine clearances.

The Port of Tema is accredited under the International Ship and Port Facility Security (ISPS) Code. This is maintained by the GPHA which reports to the appropriate central Ghana government minister. The port has on-site security personnel who are always present, this includes a mobile security team and port security personnel stationed at entry points.

Townsville, Australia: The port is responsible for the security and protection of the port's infrastructure and assets, and the provision of risk-based security services. In general, port and vessel security are managed through the International Ship and port Facility Security Code (ISPS Code). The ISPS Code is a comprehensive set of measures to enhance security of ships and port facilities, regulated by the *Maritime Transport and Offshore Facilities Security Act, 2003* (MTOFSA).

Walvis Bay, Namibia: As per Part IX section 106, dangerous goods must adhere to certain requirements. These include the technical name as stipulated by Regulation 4.1 of Part A of the SOLAS Convention, the class and UN number, the number of packages, and the mass of such dangerous goods that fall within any of the categories listed in the IMDG Code.

No dangerous goods may be unloaded until landing, delivery, and forwarding orders or container terminal orders concerning them have been accepted by Namport. Written notices must be given to the Port Captain and the Port Operations Manager or their representatives at least 72 hours before the vessel's arrival.

The owner or master of the vessel must be provided with a dangerous goods certificate or declaration. This document confirms that the shipment offered for carriage is properly classified, packaged, marked, and labelled in accordance with the IMDG code.

The port area has a closed perimeter with restricted access that is controlled by security personnel. There is a dedicated storage area for specialised products including dangerous goods; the container storage area has CCTV installed and remains fully lit at night.

The Control Centre for the port is equipped with computer management systems for alarms, dangerous goods tracking, emergency communications, records of access/egress and video surveillance.

3.3 Principle 3 – Emergency Response

Protect communities and the environment through the development of emergency response strategies and capabilities.

3.3.1 Transport Practice 3.1

Prepare detailed Emergency Response Plans for potential cyanide releases.

	☒ **in full compliance with**	
Orica is	☐ in substantial compliance with	**Transport Practice 3.1**
	☐ not in compliance with	

Summarise the basis for this Finding/Deficiencies Identified:

Orica is in FULL COMPLIANCE with Transport Practice 3.1 requiring the operation prepare detailed Emergency Response Plans for potential cyanide releases.

Orica has developed a detailed emergency response document to provide emergency response guidance for specific mine site, storage facilities and transport incidents involving Orica's Product.

The document has been developed by Orica to provide guidance in the development of site and transport route emergency response plans for the management of incidents involving spillage of cyanide product.

Orica requires that transporters involved in the shipment of cyanide have plans that cover spill response procedures outside of the Yarwun gate, up to the end user destination. Orica aid and support in this role.

Whilst Orica's product is embarked on ANL, Cosco, Evergreen, Hamburg Süd, Maersk, MSC, Transmares, NPDL, ONE, PT Temas Shipping, OOCL, PIL, SNL, Swire, Tanto Intim Line, Toll Shipping, U&D Ocean Shipping Co. Ltd and MLB Manfred vessels all emergency response is governed by the vessel's captain. Orica conducts due diligence and carrier assessments of its carriers to verify that the shipments occur in accordance with the IMO DG Code, thereby meeting emergency response requirements.

Orica require carriers to have appropriate emergency response plans and capabilities for handling any cyanide incident that falls within their contractual responsibility.

The due diligences found that ANL, Cosco, Evergreen, Hamburg Süd, Maersk, MSC, Transmares, NPDL, ONE, PT Temas Shipping, OOCL, PIL, SNL, Swire, Tanto Intim Line, Toll Shipping, U&D Ocean Shipping Co. Ltd and MLB Manfred carry out the shipping of dangerous goods in accordance with the requirements of the IMO DG Code.

Each operator implements their own system of safety and emergency response management that extends to emergency situations involving cyanide and other dangerous goods. Emergency responders, as well as dangerous goods technical experts, are available to respond and assist in emergency situations.

The due diligence assessments found that the ports used by Orica are performing dangerous goods handling duties in accordance with international and local regulations. Ports selected in the Supply Chain are located in IMO member countries, member nations must ensure that ports comply with the requirements of the IMO DG Code.

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The due diligences also found that the ports are certified under the IMO's International Convention on Oil Pollution Preparedness, Response and Cooperation 1990 (OPRC 90) except for those within Mozambique, Nicaragua, Solomon Island and Papua New Guinea (PNG). States that are party to OPRC 90 protocol are required to establish a national system for responding to oil and hazardous/noxious substances pollution incidents, including a designated national authority, a national operational contact point and a national contingency plan. This needs to be supported by a minimum level of response equipment, communications plans, regular training and exercises. The Maritime Administration and Safety Authority (SAFMAR), under the Ministry of Transport and Communications, is the national agency responsible for responding to oil pollution at sea within Mozambique. The Solomon Islands Maritime Authority (SIMA) is tasked with managing responses to marine pollution incidents involving oil and other hazardous substances.PNG is member of South Pacific Regional Environment Programme (SPREP) and party to the SPREP which address marine pollution. Individual port due diligences identify the emergency response plans and outline additional information specific to the emergency response infrastructure and resources located at each port.

3.3.2 Transport Practice 3.2

Designate appropriate response personnel and commit necessary resources for emergency response.

	☒ **in full compliance with**	
Orica is	☐ in substantial compliance with	**Transport Practice 3.2**
	☐ not in compliance with	

Summarise the basis for this Finding/Deficiencies Identified:

Orica is in FULL COMPLIANCE with Transport Practice 3.2 requiring they designate appropriate response personnel and commit necessary resources for an emergency response. Orica is in FULL COMPLIANCE with Transport Practice 3.2 requiring they designate appropriate response personnel and commit necessary resources for an emergency response.

Whilst Orica's product is embarked on carriers, all emergency response is governed by the vessel's captain. Orica conducts due diligence and carrier assessments to verify that the shipments occur in accordance with the IMO DG Code. Due diligence assessments have found that there were no issues of concern regarding the management and shipping of cyanide product by any of the shipping lines.

Orica retains a technical and advisory role in an emergency and can provide resources and personnel (depending on where an incident takes place) to assist emergency services in the response to an incident involving cyanide.

Orica require carriers to have appropriate emergency response plans and capabilities for handling any cyanide incident that falls within their contractual responsibility. The level of capability is assessed through the due diligence and Carrier Assessment process.

The due diligences assessments found that ANL, Cosco, Evergreen, Hamburg Süd, Maersk, MSC, Transmares, NPDL, ONE, PT Temas Shipping, OOCL, PIL, SNL, Swire, Tanto Intim Line, Toll Shipping, U&D Ocean Shipping Co. Ltd and MLB Manfred each carry out the shipping of dangerous goods in accordance with the requirements of the IMO DG Code. Each operator implements their own system of safety and emergency response management that extends to emergency situations involving cyanide and other dangerous goods at sea.

The due diligence assessments found that the ports used by Orica have appropriate emergency response capabilities to deal with potential releases of dangerous goods.

Orica utilises select ports and carriers along its Supply Chain and has undertaken due diligence assessments to verify that the shipments are managed in accordance with Orica's and the ICMC's requirements.

Port of Brisbane Incident

On 2 December 2020 an incident involving the release of solid sodium cyanide product occurred at the port. Two shipping containers were damaged in the incident and sodium cyanide solids were spilt on to the concrete wharf and into the hold of the vessel. There was no release to the environment and no cyanide exposure resulting in medical intervention reported.

Queensland Fire and Emergency Services (QFES) were promptly on the scene, supported by Queensland Police and QFES appointed scientists. QFES is the responsible authority for HAZMAT incidents in Queensland and took control of the scene. An exclusion zone was established as a precaution and the spill was cleaned up by QFES with no requirement for ongoing monitoring or management.

The damaged containers were patched and wrapped on wharf to prevent further loss and transported off wharf to a secure major hazard facility for further assessment.

Orica were contacted by the responders and provided technical support and advice as subject matter experts and the consigner of the goods in accordance with their response plan.

FWN Ranger chartered by Orica International Incident

In 2021, the FWN Ranger, a vessel chartered by Orica International, was on a voyage carrying emulsifier and cyanide from Australia to Puerto Angamos in Chile, with further destinations being Peru and Mexico. The ship was loaded with 220 containers of cyanide and 16 containers of emulsifier. However, while crossing the Pacific, the vessel encountered a weather event that caused a sudden change in its course. This resulted in damage to 15 containers onboard, likely due to some stacks of containers becoming loose and then the slamming of the vessel (up and down motion) compacting the containers. There were no gas leaks and all product was contained.

A HAZMAT team was engaged for the discharge and repackaging of the damaged containers. The International Cyanide Management Institute (ICMI) was informed about the incident on the 10 September 2021. Additionally, an independent surveyor was appointed to conduct a comprehensive review of the incident, capturing all events leading up to it and the subsequent follow-up actions. It is assumed that Master or Owner of the vessel did not provide Orica with a report, however, the survey conducted by the HAZMAT team will have access to the vessel logs and other relevant information. In addition, an internal review of the incident is was sought.

3.3.3 Transport Practice 3.3

Develop procedures for internal and external emergency notification and reporting.

	☒ **in full compliance with**	
Orica is	☐ in substantial compliance with	**Transport Practice 3.3**
	☐ not in compliance with	

Summarise the basis for this Finding/Deficiencies Identified:

Orica is in FULL COMPLIANCE with Transport Practice 3.3 requiring that they develop procedures for internal and external emergency notification reporting.

Carriers

Whilst Orica's product is embarked on ANL, Cosco, Evergreen, Hamburg Süd, Maersk, MSC, Transmares, NPDL, ONE, PT Temas Shipping, OOCL, PIL, SNL, Swire, Tanto Intim Line, Toll Shipping, U&D Ocean Shipping Co. Ltd and MLB Manfred vessels all emergency response is governed by the vessel's captain. Orica conducts due diligence and carrier assessments of carriers used in its Supply Chain to verify that the shipments occur in accordance with the IMO DG Code, thereby meeting emergency response requirements.

Orica require transport companies to have appropriate emergency response plans, including current contact information, and capabilities for handling any cyanide incident that falls within their contractual responsibility.

The due diligences found that ANL, Cosco, Evergreen, Hamburg Süd, Maersk, MSC, Transmares, NPDL, ONE, PT Temas Shipping, OOCL, PIL, SNL, Swire, Tanto Intim Line, Toll Shipping, U&D Ocean Shipping Co. Ltd and MLB Manfred carry out the shipping of dangerous goods in accordance with the requirements of the IMO DG Code.

Ports

Orica has completed due diligence assessments on the ports and selects Ports with suitable infrastructure and consignment tracking. Practically the notification will fall on the carrier or road transporter to provide notification to Orica.

The 2020 & 2021 incidents at the port of Brisbane and on the FWN Ranger enroute to Chile confirmed there are processes in place for notifying the consignee and regulatory authorities, including the ICMI.

Orica does have a written procedure (*Orica Procedure, Notifying Cyanide Incident to ICMI, Revision 1.0, 20 June 2022 for notifying ICMI*) of any significant cyanide incidents, as defined in ICMI's Definition and Acronyms document.

3.3.4 Transport Practice 3.4

Develop procedures for remediation of releases that recognise the additional hazards of cyanide treatment.

	☒ **in full compliance with**	
Orica is	☐ in substantial compliance with	**Transport Practice 3.4**
	☐ not in compliance with	

Summarise the basis for this Finding/Deficiencies Identified:

Orica is in FULL COMPLIANCE with Transport Practice 3.4 requiring the operation to develop procedures for remediation of releases that recognise the additional hazards of cyanide treatment.

Carriers

This Transport Practice does not apply to cyanide transported by sea.

Whilst Orica's product is embarked on ANL, Cosco, Evergreen, Hamburg Süd, Maersk, MSC, Transmares, NPDL, ONE, PT Temas Shipping, OOCL, PIL, SNL, Swire, Tanto Intim Line, Toll Shipping, U&D Ocean Shipping Co. Ltd and MLB Manfred vessels all emergency response is governed by the vessel's captain. Orica conducts due diligence and carrier assessments of carriers used in its Supply Chain to verify that the shipments occur in accordance with the IMO DG Code, thereby meeting emergency response requirements.

Orica require transport companies to have appropriate emergency response plans and capabilities for handling any cyanide incident that falls within their contractual responsibility.

The due diligences found that ANL, Cosco, Evergreen, Hamburg Süd, Maersk, MSC, Transmares, NPDL, ONE, PT Temas Shipping, OOCL, PIL, SNL, Swire, Tanto Intim Line, Toll Shipping, U&D Ocean Shipping Co. Ltd and MLB Manfred carry out the shipping of dangerous goods in accordance with the requirements of the IMO DG Code.

Ports

Orica has completed due diligence assessments on the ports and selects Ports with suitable infrastructure. Orica has developed emergency response guide that can be used by responsible authorities should an incident occur, and Orica have a 24/7 emergency number where technical support can be obtained.

3.3.5 Transport Practice 3.5

Periodically evaluate response procedures and capabilities and revise them as needed.

	☒ **in full compliance with**	
Orica is	☐ in substantial compliance with	**Transport Practice 3.5**
	☐ not in compliance with	

Summarise the basis for this Finding/Deficiencies Identified:

Orica is in FULL COMPLIANCE with Transport Practice 3.5 requiring the operation to periodically evaluate response procedures and capabilities and revise them as needed.

Carriers

This Transport Practice does not apply to cyanide transported by sea.

Whilst Orica's product is embarked on ANL, Cosco, Evergreen, Hamburg Süd, Maersk, MSC, Transmares, NPDL, ONE, PT Temas Shipping, OOCL, PIL, SNL, Swire, Tanto Intim Line, Toll Shipping, U&D Ocean Shipping Co. Ltd and MLB Manfred vessels all emergency response is governed by the vessel's captain. Orica conducts due diligence and carrier assessments of carriers used in its Supply Chain to verify that the shipments occur in accordance with the IMO DG Code, thereby meeting emergency response requirements.

Orica require transport companies to have appropriate emergency response plans and capabilities for handling any cyanide incident that falls within their contractual responsibility.

The due diligences found that ANL, Cosco, Evergreen, Hamburg Süd, Maersk, MSC, Transmares, NPDL, ONE, PT Temas Shipping, OOCL, PIL, SNL, Swire, Tanto Intim Line, Toll Shipping, U&D Ocean Shipping Co. Ltd and MLB Manfred carry out the shipping of dangerous goods in accordance with the requirements of the IMO DG Code.

Ports

Orica has completed due diligence assessments on the ports and selects Ports with suitable infrastructure and operational capabilities. Orica has developed emergency response guide that can be used by responsible authorities should an incident occur, and Orica have a 24/7 emergency number where technical support can be obtained.

4 Due diligence

4.1 Marine transportation

Refer to Appendix A for the full due diligence conducted on each carrier.

4.2 Ports

Refer to Appendix B for the full due diligence conducted on each port facility.

4.3 Auditor review of due diligence

The due diligence assessments were found by the Auditor to sufficiently evaluate the carriers and port operations, within the constraints of access and limited influence, and additional management measures by the consigner were not considered necessary.

5 Limitations

This Report is provided by WSP Australia Pty Limited (*WSP*) for Orica Australia Pty Ltd (*Client*) in response to specific instructions from the Client and in accordance with WSP's proposal dated 6 February 2024 and agreement with the Client dated 2 January 2024 (*Agreement*).

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Appendix A

Carrier due diligence assessments

Introduction

These reports provide the results of desktop due diligence assessments completed for Carriers (Shipping Companies) included in Orica Australia Pty Ltd's (Orica) Global Marine Supply Chain in accordance with the International Cyanide Management Code (ICMC) for the Manufacture, Transport and Use of Cyanide in the Production of Gold or Silver.

Scope and method

The scope of these desktop due diligences includes the management, interim storage, and emergency response capacity in relation to cyanide transported by a carrier on a vessel. A report is provided for each carrier listed.

As detailed in the International Cyanide Management Institute's (ICMI's) *Auditor Guidance for Use of the Cyanide Transportation Verification Protocol* (Auditor Guidance; ICMI, 2021), the following items are addressed within each assessment:

- Overview of the shipping company
- ICMC Transport Verification Protocol Assessment
  - Transport Practice 1.1 (Questions 1-4 and 6)
  - Transport Practice 1.5 (Question 1 and items g-i for carriers)
  - Transport Practice 1.6
  - Transport Practice 2.1
  - Transport Practice 3.1
- Conclusion
- References.

The ICMI's June 2021 version of the *Cyanide Transportation Verification Protocol* (CTVP); (ICMI, 2021), was adopted to guide the Desktop Due Diligence process. The Auditor Guidance (ICMI, 2021) was used to interpret the CTVP questions and aid in evaluating the measures taken to meet the Transportation Practices. The assessment was conducted as a desktop process using information obtained from previous due diligence reviews, ICMI audit reports and publicly available online information.

ICMC transport verification protocol assessment

The ICMI's Auditor Guidance for Use of Cyanide Transportation Verification Protocol, General Guidance states:

Except as specifically identified in this Guidance document, the Cyanide Transportation Protocol is not to be used to evaluate transport by rail and ship or management of cyanide at rail terminals and port facilities due to security issues, limited access, and the inability of consignors to affect changes in the operating practices of these transport facilities. Rather than conduct Code audits of these facilities, the consignor must conduct and document due diligence investigations of rail carriers, rail terminals, shipping companies and port facilities that are engaged to handle cyanide shipments, as further discussed below under Transport Practice 1.1. The consignor's due diligence investigation must either be conducted or reviewed by an auditor meeting ICMI requirements for a transport expert, and the auditor must conclude that the due diligence investigation has reasonably evaluated these facilities and that the consignor has, to the extent practical, implemented any necessary management measures.

A1 Australia National Line (ANL)

11 March 2024

20360521-Carrier- RevA

Author: Lilly Kelly Approved: Rudi Seebach

Carrier due diligence executive summary

WSP Pty Ltd (WSP) conducted a due diligence of Australia National Line (ANL) during March 2024 on behalf of Orica Australia Pty Ltd (Orica).

The assessment was reviewed by Rudi Seebach who meets the International Cyanide Management Institute's (ICMI) requirements for a Transport Technical Specialist.

The following items, as detailed in the ICMI's Auditor Guidance for Use of Cyanide Transportation Verification Protocol (ICMI, 2021), were addressed within the due diligence:

- Transport Practice 1.1 (Questions 1-4 and 6)
- Transport Practice 1.5 (Question 1, Items g-i)
- Transport Practice 1.6
- Transport Practice 2.1
- Transport Practice 3.1.

The ICMI's Auditor Guidance for Use of Cyanide Transportation Verification Protocol (ICMI, 2021) was used to conduct the due diligence assessment. It was not possible during this due diligence to physically inspect operations, as such the review was based on information obtained from previous due diligence reviews, ICMI audit reports and publicly available online information. Based on the evidence reviewed, this due diligence did not find issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance of for future work; rather it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

Overview of Australia National Line

Headquartered in Melbourne, Australia and with regional offices and agents around the globe, ANL provides an international cargo shipping service. ANL was originally established by the Australian government and became part of the Compagnie Maritime d'Affrètement (CMA) Compagnie Générale Maritime (CGM) Group in 1998 (ANL, 2023a). The CMA CGM Group operates on more than 200 shipping routes with over 530 vessels, calling at 420 ports in 160 countries, and employs 110000 staff in 755 agencies and offices around the world (ANL, 2023a).

ANL offers shipping services to all major Oceania destinations, with coverage throughout Asia, Australia, New Zealand, the Pacific Islands, Indian Subcontinent and North America.

ICMC transport verification protocol assessment

Transport Practice 1.1: Select cyanide transport routes to minimise the potential for accidents and releases

Orica procedure "Selection of Transport Routes Transportation of Sodium Cyanide to Customer Sites or Stock Points" (Orica, 2024a) aims to minimise the risk associated with the transportation of sodium cyanide while maintaining a safe, reliable, efficient, and cost-effective delivery system to customer sites and Orica stock points throughout the world. The procedure applies to the selection of delivery routes for Orica sodium cyanide and states that the "selection of route(s) is to be affected by the overall assessment of the risks associated with the utilisation of such route, taking into particular consideration likelihood of an incident occurring and the consequence of such an incident" (Orica, 2024a). This procedure is applicable to all routes used for the transportation of Orica sodium cyanide as well as to Orica's contracted transportation agencies.

Orica's "Route Conditions" procedure is used to assist the selection of cyanide transport routes when the original route cannot be used to minimise potential for accidents and releases. The procedure's intent is "to ensure that relevant feedback from transportation agencies relating to routes utilised for the movement of sodium cyanide is provided through to Orica for the appropriate assessment and follow on actions, as appropriate" (Orica, 2024d). Alteration to chosen route conditions are to be advised by the transportation agency through to the regional Orica Head of Supply, or their delegate, where the change is being implemented. Possible alternatives are then assessed by Orica Head of Supply or their delegate and passed through to the Health, Safety and Environment (HS&E) Officer for update of the applicable route assessment.

An export or international route will include the following (WSP Australia Pty Ltd, 2023):

- Orica production, packaging, and despatch
- Road and rail transportation to port
- International shipping to destination port
- Road transportation to customer (mining operation).

In some instances, sodium cyanide shipments are unloaded at terminals en route to its final destination. This is known as trans-shipping and involves a temporary set down within a port facility before loading onto another vessel for continuation of the delivery. It is at the discretion of ANL to determine when and where this occurs (WSP Australia Pty Ltd, 2023).

The International Maritime Dangerous Goods (IMDG) Code was given mandatory status under the Safety of Life at Sea (SOLAS) convention in 2004 (IMO, 2024). ANL must conduct itself under this code and this extends to the selection of terminals used for trans-shipping.

Transport Practice 1.5: Follow international standards for transportation of cyanide by sea

Orica's manufacturing facility and transfer stations are ICMC certified (Orica, 2024c). Orica's sodium cyanide is packaged and transported in accordance with the Australian Code for the Transport of Dangerous Goods by Road or Rail (ADG Code) and the IMDG Code (Orica, 2014a), thereby meeting the international standards required for the transportation of dangerous goods by sea.

Orica procedure "Carrier Assessment" provides the framework for ensuring that carriers and their contractors are assessed at regular intervals to ensure that, amongst others, storage, safety, security, maintenance, and emergency response standards are being maintained (Orica, 2024b).

Carriers are required to provide manifest documentation to the destination port to satisfy local customs regulations and the requirements of the IMDG Code (WSP Australia Pty Ltd, 2023). This documentation contains a list of the cargo types and, in the case of sodium cyanide and any other hazardous cargo the quantity, unique packaging numbers, stowage reference and emergency response procedures.

The International Ship and Port Facility Security Code (ISPS) was mandated by International Maritime Organization (IMO) and is a supplement to SOLAS. CMA CGM has made available their vessel certificates to show their ISPS certified status. Every ship must have a Safety Management Certificate (SMC) which ensures that the individual ships have a Safety Management Manual based on International Safety Management Code (ISM) onboard their ship (Marine Insight, 2021).

g) Does the ship carrying the cyanide have a list or manifest identifying the presence and location of the cyanide or a detailed stowage plan including this information, as required under Section 5.4.3.1 of the DG Code?

Orica's manufacturing facility and transfer stations are ICMC certified, sodium cyanide is packaged and transported in accordance with international regulatory standards, such as the United Nations Recommendation on the Transport of Dangerous Goods Model Regulations (United Nations, 2021) and National Codes of Practice such as the Australian Code for the Transport of Dangerous Goods by Road or Rail (NTC, 2022) thereby meeting the requirements of the political jurisdictions through which the loads will pass.

According to Section 5.4 of the ADG Code, Chapter 5.4 of UN22 (United Nations, 2021) outlines the necessary documentation for international, intermodal shipping. As per section 5.4.1.1.1 of this report, it is the responsibility of the consignor, who is offering dangerous goods for transport, to provide the carrier with relevant information about those goods. This information can be supplied via a dangerous goods transport document or, if the carrier agrees, through another method (United Nations, 2021).

In line with IMDG Code, Orica complete a document known as the Multimodal Dangerous Goods Form for the transport of dangerous goods (AMSA, n.d). This form complies with the requirements of SOLAS 74, Chapter VII, Regulation 4 and the International Convention for the Prevention of Pollution from Ships (MARPOL) 73/78, Annex III, Regulation 4 (ICMI, 2021). It includes a container packaging certificate that meets the requirements of Section 5.4.2 of the IMDG Code. Along with this form, additional documentation, in line with part 5 of the Dangerous Goods Code (NTC, 2022), containing a list of the cargo types, and in the case of sodium cyanide and any other hazardous cargo, the quantity, unique packaging numbers, stowage reference and emergency response procedures should be provided to the carrier. The documentation provided, including Dangerous Goods manifest (including stowage plan) and Packaging Certificates for each container ensure that adequate information is available in order to identify the correct stowage and separation of dangerous goods.

Upon arrival at the port, the ship's master is provided with a copy of this form. This information then determines the placement and segregation of the container on the vessel and handling through trans-shipment ports, if applicable.

ANL transports sodium cyanide by sea to various destination ports. All packaging and transportation is in accordance with the IMDG Code (ANL, 2023b).

All goods classified as "hazardous" by international regulation (IMDG Code) carried under ANL Bill of Lading (or associate company) are controlled by one of ANL's Dangerous Cargo Offices (DCO) located in Marseilles, Le Havre, Hong Kong, Melbourne, and Norfolk (ANL, 2023b). The DCO are in charge of delivering acceptance for loading dangerous goods on board their vessels. No dangerous goods under an ANL Bill of Lading are allowed to be loaded on ANL vessels or vessels chartered by ANL or partner's vessels without prior acceptance of ANL DCO who will issue an acceptance number (ANL, 2023b). DCO only accept dangerous goods substances complying with IMO rules/national and local regulations, ANL Policy, Lines instruction and Ship Manager Planner comments if particular restrictions occur due to ship configuration. Dangerous goods booked under ANL Bill of Lading may be loaded on board partner vessels in which case additional restrictions may also be imposed (ANL, 2023b).

h) Does the ship carrying the cyanide have cyanide emergency response information, as required under Section 5.4.3.2 of the DG Code?

As per Section 5.4 of the ADG Code, Chapter 5.4 of UN22 (United Nations, 2021) details the required documentation for international, multimodal transport. Section 5.4.3 stipulates that emergency response information must be readily available at all times. This information should be kept separate from the dangerous goods packages and be immediately accessible in case of an accident or incident. This includes the provision of a separate document like a safety data sheet and a separate document for 'Emergency Procedures for Ships Carrying Dangerous Goods', which should be used in conjunction with the transport document (United Nations, 2021).

Orica have developed the Cyanide Emergency Response Guide to comply fully with obligations as a supplier of cyanide (Orica, 2022) and provides the 'External Chemical Emergency Form' template for Carriers.

Emergency response procedures for ships carrying dangerous goods, including the emergency schedules to be followed in case of incidents involving dangerous substances, materials or articles, or harmful substances (marine pollutants), is regulated under the IMDG Code. In accordance with the Code, all ships, and the companies responsible for their operation, are required to maintain a Safety Management System (SMS). Within the SMS, procedures for responding to potential shipboard emergencies are required (IMO, 2024).

In line with the Code, manifests are to be provided to the vessel Master and contain emergency response information. The *Multimodal Dangerous Goods Form* also includes emergency response information.

i) Does the ship comply with the stowage and separation requirements of Part 7 of the DG Code?

According to Section 7.1.1.3 of the UN guidelines (United Nations, 2021), a carrier is prohibited from accepting dangerous goods for transport unless the supplier, in this case Orica, provides a copy of the dangerous goods transport documentation, including in electronic form, along with any other necessary documents. The segregation requirements for dangerous goods are detailed in Section 7.1.2.

The carrier can establish the segregation requirements as outlined in the United Nations guidelines based on the Multimodal Dangerous Goods Form (AMSA, n.d) provided by Orica, along with the additional required labelling and documentation.

In Orica's Emergency Response Guide (Orica, 2022), the conditions for storing cyanide are specified in Section 2.3 'Methods of Transport'. It is also stated that these conditions should comply with the Australian Standard AS/NZS 4452:1997, which is related to the Storage and Handling of Toxic Substances.

Transport Practice 1.6: Track cyanide shipments to prevent losses during transport

ANL vessels have continuous means of tracking and communication during their voyages. ANL has their own in-house systems for tracking freight, which is linked by the container number, booking reference (ANL, 2023c). The shipment can be tracked throughout its journey and the customer can opt to receive notifications to get the most up-to-date information.

Transport Practice 2.1: Store cyanide in a manner that minimises the potential for accidental releases

Orica's Emergency Response Guide for Sodium Cyanide provides the storage requirements for Cyanide. Solid sodium cyanide is usually stored and transported in Composite Intermediate Bulk Containers (IBCs) that can hold between 800 and 1100 kilograms. The sodium cyanide is packed into a single-use woven polypropylene bulk bag, which is hermetically sealed within a polyethylene bag that lines the interior of the wooden IBC. This entire package (the composite IBC) has been thoroughly tested and approved according to the United Nations Recommendations for the Transport of Dangerous Goods, Model Regulations (Orica, 2022). As per the approval conditions, the sodium cyanide composite IBCs can only be transported inside a sealed 20-foot general-purpose shipping container. The sodium cyanide must stay within the shipping container throughout all stages of its distribution and can only be unpacked at the mine site.

Additionally, solid sodium cyanide can be transported in specially designed and constructed bulk sparge isotank containers. These containers can hold 20-24 tonnes of bulk solid cyanide. These isotanks are designed, built, and approved to international standards in line with the IMDG Code, making them suitable for transport by road, rail, and sea (Orica, 2022).

As per Orica's Emergency Response Guide for Sodium Cyanide, sodium cyanide should be stored in a dry, cool, and well-ventilated area, secured and under surveillance. Access to the storage area and the product should be limited to authorised personnel who have been trained in cyanide hazards.

Bulk sparge isotainers and shipping containers containing composite IBCs are placarded with and emergency information panel (EIP) detailing the proper shipping name, dangerous goods class number, UN number, HAZCHEM Code and emergency contact information. Containers are placarded with the environmentally hazardous substance markings (United Nations, 2021). Product labels are provided on the side of the IBC that allows forklift access via the pallet base. IBCs are placed into shipping containers so that the label is facing outwards.

Orica's Sodium Cyanide Transport Management Plan (Orica, 2024) stipulates that agents, distributors, and transport companies are obligated to ensure compliance with all legal requirements related to the transport and storage of sodium cyanide. They are also tasked with notifying Orica of any violations or breaches of these legal requirements.

CMA CGM ensure that their shipboard management operate in accordance with the approved safety and environmental policy and this is done through certifications for each ship (CMA CGM, 2023).

Transport Practice 3.1: Prepare detailed emergency response plans for potential cyanide releases

Orica has developed the Emergency Response Guide for Sodium Cyanide (Orica, 2022). This guide stipulates that the first responders should immediately get in touch with trained personnel, such as local site management or emergency services, to establish a basic command structure for managing the situation and providing the necessary emergency response. This includes alerting others in the immediate vicinity of the spill, barricading the area if necessary to prevent exposure, and documenting key information about the scene (e.g.,, location, what happened, who is involved).

After these initial steps, first responders will need to apply their knowledge specific to sodium cyanide to effectively manage casualties, provide appropriate medical treatment, and carry out safe and proper product recovery, site remediation, and decontamination activities.

According to Orica's Transport Management Plan (Orica, 2024), the emergency response plan should cover the entire delivery route. While Orica's responsibilities are limited to the aspects of supply for which it is contractually accountable, agents, distributors, and transport companies must have an appropriate emergency response plan to handle any sodium cyanide incidents within their contractual responsibilities.

The Emergency Schedules (EmS) Guide provides guidance on Emergency Response Procedures for Ships Carrying Dangerous Goods, including the EmS, to be followed in case of incidents involving dangerous substances, materials or articles, or harmful substances (marine pollutants). This is regulated under the International Maritime Dangerous Goods Code (IMDG Code) which ANL subscribes to (IMO, 2024).

Conclusion

Based on the evidence reviewed, this due diligence did not find significant issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work. Instead, it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

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A2 COSCO Container Lines Co

12 March 2024

20360521-Carrier-001. RevA

Author: Megan Wood

Approved: Rudi Seebach

Carrier due diligence executive summary

WSP Pty Ltd (WSP) conducted a due diligence of COSCO Container Lines Co.during March 2024 on behalf of Orica Australia Pty Ltd (Orica).

The assessment was reviewed by Rudi Seebach who meets the International Cyanide Management Institute's (ICMI) requirements for a Transport Technical Specialist.

The following items, as detailed in the ICMI's Auditor Guidance for Use of Cyanide Transportation Verification Protocol (ICMI, 2021), were addressed within the due diligence:

- Transport Practice 1.1 (Questions 1-4 and 6)
- Transport Practice 1.5 (Question 1, Items g-i)
- Transport Practice 1.6
- Transport Practice 2.1
- Transport Practice 3.1.

The ICMI's Auditor Guidance for Use of Cyanide Transportation Verification Protocol (ICMI, 2021) was used to conduct the due diligence assessment. It was not possible during this due diligence to physically inspect operations, as such the review was based on information obtained from previous due diligence reviews, ICMI audit reports and publicly available online information. Based on the evidence reviewed, this due diligence did not find issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance of for future work; rather it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

Overview of COSCO

Founded in 2016 through the merger of COSCO and China Shipping container line businesses, COSCO SHIPPING Lines is Headquartered in Shanghai and boasts a vast network with (COSCO,2024):

- 28 departments in its Shanghai headquarters
- 9 domestic branches across China
- 9 overseas branches spread worldwide
- Over 400 marketing and service outlets globally
- A workforce of 17,000, including over 5,300 staff overseas
- Fleet of 382 container vessels with a total capacity of 2.1 million TEUs (twenty-foot equivalent units)
- Combined fleet (with subsidiary) of 503 vessels reaching 3.1 million TEUs, making it the industry leader in shipping capacity.

COSCO SHIPPING Lines' vessels call at a staggering 602 ports across 144 countries and regions, demonstrating its extensive global reach.

ICMC transport verification protocol assessment

Transport Practice 1.1: Select cyanide transport routes to minimise the potential for accidents and releases

Orica procedure "Selection of Transport Routes Transportation of Sodium Cyanide to Customer Sites or Stock Points" (Orica, 2024a) aims to minimise the risk associated with the transportation of sodium cyanide while maintaining a safe, reliable, efficient, and cost-effective delivery system to customer sites and Orica stock points throughout the world. The procedure applies to the selection of delivery routes for Orica sodium cyanide and states that the "selection of route(s) is to be affected by the overall assessment of the risks associated with the utilisation of such route, taking into particular consideration likelihood of an incident occurring and the consequence of such an incident" (Orica, 2024a). This procedure is applicable to all routes used for the transportation of Orica sodium cyanide as well as to Orica's contracted transportation agencies.

Orica's "Route Conditions" procedure is used to assist the selection of cyanide transport routes when the original route cannot be used to minimise potential for accidents and releases. The procedure's intent is "to ensure that relevant feedback from transportation agencies relating to routes utilised for the movement of sodium cyanide is provided through to Orica for the appropriate assessment and follow on actions, as appropriate" (Orica, 2024d). Alteration to chosen route conditions are to be advised by the transportation agency through to the regional Orica Head of Supply, or their delegate, where the change is being implemented. Possible alternatives are then assessed by Orica Head of Supply or their delegate and passed through to the Health, Safety and Environment (HS&E) Officer for update of the applicable route assessment.

An export or international route will include the following:

- Orica production, packaging, and despatch
- Road and rail transportation to port
- International shipping to destination port
- Road transportation to customer (mining operation).

In some instances, sodium cyanide shipments are unloaded at terminals en route to its final destination. This is known as trans-shipping and involves a temporary set down within a port facility before loading onto another vessel for continuation of the delivery.

Transport Practice 1.5: Follow international standards for transportation of cyanide by sea

Orica's manufacturing facility and transfer stations are ICMC certified (Orica, 2024c). Orica's sodium cyanide is packaged and transported in accordance with the Australian Dangerous Goods Code (ADG Code) and the IMDG Code (Orica, 2014a), thereby meeting the international standards required for the transportation of dangerous goods by sea.

Orica procedure "Carrier Assessment" provides the framework for ensuring that carriers and their contractors are assessed at regular intervals to ensure that, amongst others, storage, safety, security, maintenance, and emergency response standards are being maintained (Orica, 2024b).

Carriers are required to provide manifest documentation to the destination port to satisfy local customs regulations and the requirements of the IMDG Code. This documentation contains a list of the cargo types and, in the case of sodium cyanide and any other hazardous cargo the quantity, unique packaging numbers, stowage reference and emergency response procedures. As all carriers must meet the requirements of the IMDG code, COSCO must follow the standards set out when transporting cyanide.

g) Does the ship carrying the cyanide have a list or manifest identifying the presence and location of the cyanide or a detailed stowage plan including this information, as required under Section 5.4.3.1 of the DG Code?

Orica's manufacturing facility and transfer stations are ICMC certified, sodium cyanide is packaged and transported in accordance with international regulatory standards, such as the United Nations Recommendation on the Transport of Dangerous Goods Model Regulations (United Nations, 2021) and National Codes of Practice such as the Australian Code for the Transport of Dangerous Goods by Road or Rail (NTC, 2022) thereby meeting the requirements of the political jurisdictions through which the loads will pass.

According to Section 5.4 of the ADG Code, Chapter 5.4 of UN22 (United Nations, 2021) outlines the necessary documentation for international, intermodal shipping. As per section 5.4.1.1.1 of this report, it is the responsibility of the consignor, who is offering dangerous goods for transport, to provide the carrier with relevant information about those goods. This information can be supplied via a dangerous goods transport document or, if the carrier agrees, through another method (United Nations, 2021).

In line with IMDG Code, Orica complete a document known as the Multimodal Dangerous Goods Form for the transport of dangerous goods (AMSA, n.d). This form complies with the requirements of Safety of Life at Sea (SOLAS) 74, Chapter VII, Regulation 4 and the International Convention for the Prevention of Pollution from Ships (MARPOL) 73/78, Annex III, Regulation 4 (ICMI, 2021). It includes a container packaging certificate that meets the requirements of Section 5.4.2 of the IMDG Code. Along with this form, additional documentation, in line with part 5 of the ADG Code (NTC, 2022), containing a list of the cargo types, and in the case of sodium cyanide and any other hazardous cargo, the quantity, unique packaging numbers, stowage reference and emergency response procedures should be provided to the carrier. The documentation provided, including Dangerous Goods manifest (including stowage plan) and Packaging Certificates for each container ensure that adequate information is available in order to identify the correct stowage and separation of dangerous goods.

Upon arrival at the port, the ship's master is provided with a copy of this form. This information then determines the placement and segregation of the container on the vessel and handling through trans-shipment ports, if applicable.

h) Does the ship carrying the cyanide have cyanide emergency response information, as required under Section 5.4.3.2 of the DG Code?

As per Section 5.4 of the ADG Code, Chapter 5.4 of UN22 (United Nations, 2021) details the required documentation for international, multimodal transport. Section 5.4.3 stipulates that emergency response information must be readily available at all times. This information should be kept separate from the dangerous goods packages and be immediately accessible in case of an accident or incident. This includes the provision of a separate document like a safety data sheet and a separate document for 'Emergency Procedures for Ships Carrying Dangerous Goods', which should be used in conjunction with the transport document (United Nations, 2021).

Orica have developed the Cyanide Emergency Response Guide to comply fully with obligations as a supplier of cyanide (Orica, 2022) and provides the 'External Chemical Emergency Form' template for Carriers.

Emergency response procedures for ships carrying dangerous goods, including the emergency schedules to be followed in case of incidents involving dangerous substances, materials or articles, or harmful substances (marine pollutants), is regulated under the IMDG Code. In accordance with the Code, all ships, and the companies responsible for their operation, are required to maintain a Safety Management System (SMS). Within the SMS, procedures for responding to potential shipboard emergencies are required (IMO, 2024).

In line with the Code, manifests are to be provided to the vessel Master and contain emergency response information. The *Multimodal Dangerous Goods Form* also includes emergency response information.

i) Does the ship comply with the stowage and separation requirements of Part 7 of the DG Code?

According to Section 7.1.1.3 of the UN guidelines (United Nations, 2021), a carrier is prohibited from accepting dangerous goods for transport unless the supplier, in this case Orica, provides a copy of the dangerous goods transport documentation, including in electronic form, along with any other necessary documents. The segregation requirements for dangerous goods are detailed in Section 7.1.2.

The carrier can establish the segregation requirements as outlined in the United Nations guidelines based on the Multimodal Dangerous Goods Form (AMSA, n.d) provided by Orica, along with the additional required labelling and documentation.

In Orica's Emergency Response Guide (Orica, 2022), the conditions for storing cyanide are specified in Section 2.3 'Methods of Transport'. It is also stated that these conditions should comply with the Australian Standard AS/NZS 4452:1997, which is related to the Storage and Handling of Toxic Substances.

Transport Practice 1.6: Track cyanide shipments to prevent losses during transport

Hazardous and oversized cargo confirmations take 2 working days. Once equipment is picked up and request is confirmed, it will be reserved within 48 hours. The original Bill of Lading will be ready within 1 working day. COSCO SHIPPING Holdings launched "Talent Pegasus," their first integrated supply chain product in January 2023. This new offering combines trailer, customs clearance, and shipping services into a single, convenient package for customers. Customers can track their shipment's progress in real-time using Talent Pegasus' IT platform. Monitor trailers, customs clearance, port entry, loading, delivery, and more (COSCO, 2023).

Transport Practice 2.1: Store cyanide in a manner that minimises the potential for accidental releases

Orica's Emergency Response Guide for Sodium Cyanide provides the storage requirements for Cyanide. Solid sodium cyanide is usually stored and transported in Composite Intermediate Bulk Containers (IBCs) that can hold between 800 and 1100 kilograms. The sodium cyanide is packed into a single-use woven polypropylene bulk bag, which is hermetically sealed within a polyethylene bag that lines the interior of the wooden IBC. This entire package (the composite IBC) has been thoroughly tested and approved according to the United Nations Recommendations for the Transport of Dangerous Goods, Model Regulations (Orica, 2022). As per the approval conditions, the sodium cyanide composite IBCs can only be transported inside a sealed 20-foot general-purpose shipping container. The sodium cyanide must stay within the shipping container throughout all stages of its distribution and can only be unpacked at the mine site.

Additionally, solid sodium cyanide can be transported in specially designed and constructed bulk sparge isotank containers. These containers can hold 20-24 tonnes of bulk solid cyanide. These isotanks are designed, built, and approved to international standards in line with the IMDG Code, making them suitable for transport by road, rail, and sea (Orica, 2022).

As per Orica's Emergency Response Guide for Sodium Cyanide, sodium cyanide should be stored in a dry, cool, and well-ventilated area, secured and under surveillance. Access to the storage area and the product should be limited to authorised personnel who have been trained in cyanide hazards.

Bulk sparge isotainers and shipping containers containing composite IBCs are placarded with and emergency information panel (EIP) detailing the proper shipping name, dangerous goods class number, UN number, HAZCHEM Code and emergency contact information. Containers are placarded with the environmentally hazardous substance markings

(United Nations, 2021). Product labels are provided on the side of the IBC that allows forklift access via the pallet base. IBCs are placed into shipping containers so that the label is facing outwards.

Orica's Sodium Cyanide Transport Management Plan (Orica, 2024) stipulates that agents, distributors, and transport companies are obligated to ensure compliance with all legal requirements related to the transport and storage of sodium cyanide. They are also tasked with notifying Orica of any violations or breaches of these legal requirements.

All packaging and transportation of Orica's sodium cyanide complies with the ADG and the IMDG Code (Orica, 2014a). The codes are to ensure the safe transport of dangerous goods and thus minimise the potential for accidental release.

COSCO operations personnel provide the vessel's Master with copies of the Emergency Information, Dangerous Goods manifest (including stowage plan), Packaging Certificates and the *Multimodal Dangerous Goods Form* for each hazardous cargo transport units loaded onto the ship at the port.

Transport Practice 3.1: Prepare detailed emergency response plans for potential cyanide releases

Orica has developed the Emergency Response Guide for Sodium Cyanide (Orica, 2022). This guide stipulates that the first responders should immediately get in touch with trained personnel, such as local site management or emergency services, to establish a basic command structure for managing the situation and providing the necessary emergency response. This includes alerting others in the immediate vicinity of the spill, barricading the area if necessary to prevent exposure, and documenting key information about the scene (e.g.,, location, what happened, who is involved).

After these initial steps, first responders will need to apply their knowledge specific to sodium cyanide to effectively manage casualties, provide appropriate medical treatment, and carry out safe and proper product recovery, site remediation, and decontamination activities.

According to Orica's Transport Management Plan (Orica, 2024), the emergency response plan should cover the entire delivery route. While Orica's responsibilities are limited to the aspects of supply for which it is contractually accountable, agents, distributors, and transport companies must have an appropriate emergency response plan to handle any sodium cyanide incidents within their contractual responsibilities.

The EmS Guide provides guidance on Emergency Response Procedures for Ships Carrying Dangerous Goods, including the Emergency Schedules (EmS), to be followed in case of incidents involving dangerous substances, materials or articles, or harmful substances (marine pollutants). This is regulated under the International Maritime Dangerous Goods Code (IMDG Code) which COSCO subscribes to (IMO, 2024).

Conclusion

Based on the evidence reviewed, this due diligence did not find significant issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work. Instead, it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

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A3 Evergreen

12 March 2024

20360521-Carrier-002. RevA

Author: Megan Wood

Approved: Rudi Seebach

Carrier due diligence executive summary

WSP conducted a due diligence of Evergreen during March 2024 on behalf of Orica Australia Pty Ltd (Orica).

The assessment was reviewed by Rudi Seebach who meets the ICMI requirements for a Transport Technical Specialist.

The following items, as detailed in the ICMI's Auditor Guidance for Use of Cyanide Transportation Verification Protocol (ICMI, 2021), were addressed within the due diligence:

- Transport Practice 1.1 (Questions 1-4 and 6)
- Transport Practice 1.5 (Question 1, Items g-i)
- Transport Practice 1.6
- Transport Practice 2.1
- Transport Practice 3.1.

The ICMI's Auditor Guidance for Use of Cyanide Transportation Verification Protocol (ICMI, 2021) was used to conduct the due diligence assessment. It was not possible during this due diligence to physically inspect operations, as such the review was based on information obtained from previous due diligence reviews, ICMI audit reports and publicly available online information. Based on the evidence reviewed, this due diligence did not find issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance of for future work; rather it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

Overview of Evergreen

Evergreen Line, a subsidiary of Evergreen Group, has grown from a single 15-year-old cargo ship in 1968 to a global leader in container shipping (Evergreen Marine Corp., 2024). Evergreen Line has:

- A modern fleet of over 200 container ships.
- Extensive global network reaching five continents.
- Top ranking in terms of fleet capacity, cargo volume, and shipbuilding innovation.

Evergreen Line, established in 2007, is the unified brand for container shipping services offered by the Evergreen Group. It combines the strengths of several companies, including Evergreen Marine Corp. (Taiwan) Ltd. and subsidiaries across Italy, United Kingdom, Hong Kong, and Singapore. In 2021, Evergreen Marine (Asia) joined the alliance. Evergreen Line has a modern fleet exceeding 1.5 million twenty-foot equivalent units (TEU) capacity, serving a vast network of trade routes worldwide (Evergreen Line, 2024).

ICMC transport verification protocol assessment

Transport Practice 1.1: Select cyanide transport routes to minimise the potential for accidents and releases

Orica procedure "Selection of Transport Routes Transportation of Sodium Cyanide to Customer Sites or Stock Points" (Orica, 2024a) aims to minimise the risk associated with the transportation of sodium cyanide while maintaining a safe, reliable, efficient, and cost-effective delivery system to customer sites and Orica stock points throughout the world. The procedure applies to the selection of delivery routes for Orica sodium cyanide and states that the "selection of route(s) is to be affected by the overall assessment of the risks associated with the utilisation of such route, taking into particular consideration likelihood of an incident occurring and the consequence of such an incident" (Orica, 2024a). This procedure is applicable to all routes used for the transportation of Orica sodium cyanide as well as to Orica's contracted transportation agencies.

Orica's "Route Conditions" procedure is used to assist the selection of cyanide transport routes when the original route cannot be used to minimise potential for accidents and releases. The procedure's intent is "to ensure that relevant feedback from transportation agencies relating to routes utilised for the movement of sodium cyanide is provided through to Orica for the appropriate assessment and follow on actions, as appropriate" (Orica, 2024d). Alteration to chosen route conditions are to be advised by the transportation agency through to the regional Orica Head of Supply, or their delegate, where the change is being implemented. Possible alternatives are then assessed by Orica Head of Supply or their delegate and passed through to the Health, Safety and Environment (HS&E) Officer for update of the applicable route assessment.

An export or international route will include the following:

- Orica production, packaging, and despatch
- Road and rail transportation to port
- International shipping to destination port
- Road transportation to customer (mining operation).

In some instances, sodium cyanide shipments are unloaded at terminals en route to its destination. This is known as trans-shipping and involves a temporary set down within a port facility before loading onto another vessel for continuation of the delivery. It is at the discretion of Evergreen to determine when and where this occurs.

Transport Practice 1.5: Follow international standards for transportation of cyanide by sea

Orica's manufacturing facility and transfer stations are ICMC certified (Orica, 2024c). Orica's sodium cyanide is packaged and transported in accordance with the Australian Dangerous Goods Code and the IMDG Code (Orica, 2014a), thereby meeting the international standards required for the transportation of dangerous goods by sea.

Orica procedure "Carrier Assessment" provides the framework for ensuring that carriers and their contractors are assessed at regular intervals to ensure that, amongst others, storage, safety, security, maintenance, and emergency response standards are being maintained (Orica, 2024b).

Carriers are required to provide manifest documentation to the destination port to satisfy local customs regulations and the requirements of the IMDG Code. This documentation contains a list of the cargo types and, in the case of sodium cyanide and any other hazardous cargo the quantity, unique packaging numbers, stowage reference and emergency response procedures.

g) Does the ship carrying the cyanide have a list or manifest identifying the presence and location of the cyanide or a detailed stowage plan including this information, as required under Section 5.4.3.1 of the DG Code?

Orica's manufacturing facility and transfer stations are ICMC certified, sodium cyanide is packaged and transported in accordance with international regulatory standards, such as the United Nations Recommendation on the Transport of Dangerous Goods Model Regulations (United Nations, 2021) and National Codes of Practice such as the Australian Code for the Transport of Dangerous Goods by Road or Rail (NTC, 2022) thereby meeting the requirements of the political jurisdictions through which the loads will pass.

According to Section 5.4 of the Australian Dangerous Goods Code (ADG Code), Chapter 5.4 of UN22 (United Nations, 2021) outlines the necessary documentation for international, intermodal shipping. As per section 5.4.1.1.1 of this report, it is the responsibility of the consignor, who is offering dangerous goods for transport, to provide the carrier with relevant information about those goods. This information can be supplied via a dangerous goods transport document or, if the carrier agrees, through another method (United Nations, 2021).

In line with IMDG Code, Orica completes a document known as the Multimodal Dangerous Goods Form for the transport of dangerous goods (AMSA, n.d). This form complies with the requirements of Safety of Life at Sea (SOLAS) 74, Chapter VII, Regulation 4 and The International Convention for the Prevention of Pollution from Ships (MARPOL) 73/78, Annex III, Regulation 4 (ICMI, 2021). It includes a container packaging certificate that meets the requirements of Section 5.4.2 of the IMDG Code. Along with this form, additional documentation, in line with part 5 of the ADG Code (NTC, 2022), containing a list of the cargo types, and in the case of sodium cyanide and any other hazardous cargo, the quantity, unique packaging numbers, stowage reference and emergency response procedures should be provided to the carrier. The documentation provided, including Dangerous Goods manifest (including stowage plan) and Packaging Certificates for each container ensure that adequate information is available in order to identify the correct stowage and separation of dangerous goods.

Upon arrival at the port, the ship's master is provided with a copy of this form. This information then determines the placement and segregation of the container on the vessel and handling through trans-shipment ports, if applicable.

h) Does the ship carrying the cyanide have cyanide emergency response information, as required under Section 5.4.3.2 of the DG Code?

As per Section 5.4 of the ADG Code, Chapter 5.4 of UN22 (United Nations, 2021) details the required documentation for international, multimodal transport. Section 5.4.3 stipulates that emergency response information must be readily available at all times. This information should be kept separate from the dangerous goods packages and be immediately accessible in case of an accident or incident. This includes the provision of a separate document like a safety data sheet and a separate document for 'Emergency Procedures for Ships Carrying Dangerous Goods', which should be used in conjunction with the transport document (United Nations, 2021).

Orica have developed the Cyanide Emergency Response Guide to comply fully with obligations as a supplier of cyanide (Orica, 2022) and provides the 'External Chemical Emergency Form' template for Carriers.

Emergency response procedures for ships carrying dangerous goods, including the emergency schedules to be followed in case of incidents involving dangerous substances, materials or articles, or harmful substances (marine pollutants), is regulated under the IMDG Code. In accordance with the Code, all ships, and the companies responsible for their operation, are required to maintain a Safety Management System (SMS). Within the SMS, procedures for responding to potential shipboard emergencies are required (IMO, 2024).

In line with the Code, manifests are to be provided to the vessel Master and contain emergency response information. The *Multimodal Dangerous Goods Form* also includes emergency response information.

i) Does the ship comply with the stowage and separation requirements of Part 7 of the DG Code?

According to Section 7.1.1.3 of the United Nations guidelines (United Nations, 2021), a carrier is prohibited from accepting dangerous goods for transport unless the supplier, in this case Orica, provides a copy of the dangerous goods transport documentation, including in electronic form, along with any other necessary documents. The segregation requirements for dangerous goods are detailed in Section 7.1.2.

The carrier can establish the segregation requirements as outlined in the UN guidelines based on the Multimodal Dangerous Goods Form (AMSA, n.d) provided by Orica, along with the additional required labelling and documentation.

In Orica's Emergency Response Guide (Orica, 2022), the conditions for storing cyanide are specified in Section 2.3 'Methods of Transport'. It is also stated that these conditions should comply with the Australian Standard AS/NZS 4452:1997, which is related to the Storage and Handling of Toxic Substances.

Transport Practice 1.6: Track cyanide shipments to prevent losses during transport

Evergreen Line established a platform which provides access to innovative features like the i-B/L (intelligent Bill of Lading) and i-Dispatch (digital documentation dispatch). These digital solutions expedite service delivery, eliminate paper usage, and boost overall supply chain efficiency (Evergreen Marine Corp., 2024).In addition, registered customers can track goods via ShipmentLink (ShipmentLink, 2024).

Transport Practice 2.1: Store cyanide in a manner that minimises the potential for accidental releases

Orica's Emergency Response Guide for Sodium Cyanide provides the storage requirements for sodium cyanide. Solid sodium cyanide is usually stored and transported in Composite Intermediate Bulk Containers (IBCs) that can hold between 800 and 1100 kilograms. The sodium cyanide is packed into a single-use woven polypropylene bulk bag, which is hermetically sealed within a polyethylene bag that lines the interior of the wooden IBC. This entire package (the composite IBC) has been thoroughly tested and approved according to the United Nations Recommendations for the Transport of Dangerous Goods, Model Regulations (Orica, 2022). As per the approval conditions, the sodium cyanide composite IBCs can only be transported inside a sealed 20-foot general-purpose shipping container. The sodium cyanide must stay within the shipping container throughout all stages of its distribution and can only be unpacked at the mine site.

Additionally, solid sodium cyanide can be transported in specially designed and constructed bulk sparge isotank containers. These containers can hold 20-24 tonnes of bulk solid cyanide. These isotanks are designed, built, and approved to international standards in line with the IMDG Code, making them suitable for transport by road, rail, and sea (Orica, 2022).

As per Orica's Emergency Response Guide for Sodium Cyanide, sodium cyanide should be stored in a dry, cool, and well-ventilated area, secured and under surveillance. Access to the storage area and the product should be limited to authorised personnel who have been trained in cyanide hazards.

Bulk sparge isotainers and shipping containers containing composite IBCs are placarded with and emergency information panel (EIP) detailing the proper shipping name, dangerous goods class number, UN number, HAZCHEM Code and emergency contact information. Containers are placarded with the environmentally hazardous substance markings (United Nations, 2021). Product labels are provided on the side of the IBC that allows forklift access via the pallet base. IBCs are placed into shipping containers so that the label is facing outwards.

Orica's Sodium Cyanide Transport Management Plan (Orica, 2024) stipulates that agents, distributors, and transport companies are obligated to ensure compliance with all legal requirements related to the transport and storage of sodium cyanide. They are also tasked with notifying Orica of any violations or breaches of these legal requirements.

Transport Practice 3.1: Prepare detailed emergency response plans for potential cyanide releases

Orica has developed the Emergency Response Guide for Sodium Cyanide (Orica, 2022). This guide stipulates that the first responders should immediately get in touch with trained personnel, such as local site management or emergency services, to establish a basic command structure for managing the situation and providing the necessary emergency response. This includes alerting others in the immediate vicinity of the spill, barricading the area if necessary to prevent exposure, and documenting key information about the scene (e.g.,, location, what happened, who is involved).

After these initial steps, first responders will need to apply their knowledge specific to sodium cyanide to effectively manage casualties, provide appropriate medical treatment, and carry out safe and proper product recovery, site remediation, and decontamination activities.

According to Orica's Transport Management Plan (Orica, 2024), the emergency response plan should cover the entire delivery route. Orica's responsibilities are limited to the aspects of supply for which it is contractually accountable. Agents, distributors, and transport companies must have an appropriate emergency response plan to handle any sodium cyanide incidents within their contractual responsibilities.

The EmS Guide provides guidance on Emergency Response Procedures for Ships Carrying Dangerous Goods, including the Emergency Schedules (EmS), to be followed in case of incidents involving dangerous substances, materials or articles, or harmful substances (marine pollutants). This is regulated under the International Maritime Dangerous Goods Code (IMDG Code) which Evergreen subscribes to (IMO, 2024).

Conclusion

Based on the evidence reviewed, this due diligence did not find significant issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work. Instead, it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

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A4 HAMBURG SüD

11 March 2024

20360521-Carrier-003. RevA

Author: Lilly Kelly Approved: Rudi Seebach

Carrier due diligence executive summary

WSP conducted a due diligence of Hamburg Süd during March 2024 on behalf of Orica Australia Pty Ltd (Orica).

The assessment was reviewed by Rudi Seebach who meets the ICMI requirements for a Transport Technical Specialist.

The following items, as detailed in the ICMI's Auditor Guidance for Use of Cyanide Transportation Verification Protocol (ICMI, 2021), were addressed within the due diligence:

- Transport Practice 1.1 (Questions 1-4 and 6)
- Transport Practice 1.5 (Question 1, Items g-i)
- Transport Practice 1.6
- Transport Practice 2.1
- Transport Practice 3.1.

The ICMI's Auditor Guidance for Use of Cyanide Transportation Verification Protocol (ICMI, 2021) was used to conduct the due diligence assessment. It was not possible during this due diligence to physically inspect operations, as such the review was based on information obtained from previous due diligence reviews, ICMI audit reports and publicly available online information. Based on the evidence reviewed, this due diligence did not find issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance of for future work; rather it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

Overview of Hamburg SüD

Maersk has initiated the process of acquiring Hamburg Süd. Until the merger is fully completed, both companies will continue to operate independently, adhering to their respective policies and guidelines. As such, the policies and other aspects of Hamburg Süd have been taken into account for this due diligence. Hamburg Süd's roots lie in maritime transport since the company's foundation in 1871.

Hamburg Süd checks every transportation request for dangerous goods individually (Hamburg Sud, 2024a). They have a regional team of experts who plan and follow every transportation under the direction of a goods officer from acceptance of an order until the cargo reaches its destination.

Hamburg Süd's Integrated Management System encompasses the issues of environmental protection and quality. The quality standard International Standards Organization (ISO) 9001 was implemented with the International Safety Management (ISM) Code in 1996, and the environmental norm ISO 14001 was added in 2000 (Hamburg Sud, 2019).

ICMC transport verification protocol assessment

Transport Practice 1.1: Select cyanide transport routes to minimise the potential for accidents and releases

Orica procedure "Selection of Transport Routes Transportation of Sodium Cyanide to Customer Sites or Stock Points" (Orica, 2024a) aims to minimise the risk associated with the transportation of sodium cyanide while maintaining a safe, reliable, efficient, and cost-effective delivery system to customer sites and Orica stock points throughout the world. The procedure applies to the selection of delivery routes for Orica sodium cyanide and states that the "selection of route(s) is to be affected by the overall assessment of the risks associated with the utilisation of such route, taking into particular consideration likelihood of an incident occurring and the consequence of such an incident" (Orica, 2024a). This procedure is applicable to all routes used for the transportation of Orica sodium cyanide as well as to Orica's contracted transportation agencies.

Orica's "Route Conditions" procedure is used to assist the selection of cyanide transport routes when the original route cannot be used to minimise potential for accidents and releases. The procedure's intent is "to ensure that relevant feedback from transportation agencies relating to routes utilised for the movement of sodium cyanide is provided through to Orica for the appropriate assessment and follow on actions, as appropriate" (Orica, 2024d). Alteration to chosen route conditions are to be advised by the transportation agency through to the regional Orica Head of Supply, or their delegate, where the change is being implemented. Possible alternatives are then assessed by Orica Head of Supply or their delegate and passed through to the Health, Safety and Environment (HS&E) Officer for update of the applicable route assessment.

An export or international route will include the following:

- Orica production, packaging, and despatch
- Road and rail transportation to port
- International shipping to destination port
- Road transportation to customer (mining operation).

In some instances, sodium cyanide shipments are unloaded at terminals en route to its final destination. This is known as trans-shipping and involves a temporary set down within a port facility before loading onto another vessel for continuation of the delivery. It is at the discretion of Hamburg to determine when and where this occurs (WSP Australia Pty Ltd, 2023).

The IMDG Code was given mandatory status under the Safety of Life at Sea (SOLAS) convention in 2004 (IMO, 2024). Hamburg must conduct itself under this code and this extends to the selection of terminals used for trans-shipping. Hamburg operates in compliance with the International Safety Management Code (Hamburg Sud, N.D.) which provides an international standard for the safe management and operation of ships and would include the consideration of transport routes. They also have dangerous goods officers who follow the transportation of cyanide from acceptance of the order until it reaches its destination.

Transport Practice 1.5: Follow international standards for transportation of cyanide by sea

Orica's manufacturing facility and transfer stations are ICMC certified (Orica, 2024c). Orica's sodium cyanide is packaged and transported in accordance with the Australian Dangerous Goods (ADG) Code and the International Maritime Dangerous Goods (IMDG) Code (Orica, 2014a), thereby meeting the international standards required for the transportation of dangerous goods by sea.

Orica procedure "Carrier Assessment" provides the framework for ensuring that carriers and their contractors are assessed at regular intervals to ensure that, amongst others, storage, safety, security, maintenance, and emergency response standards are being maintained (Orica, 2024b).

Carriers are required to provide manifest documentation to the destination port to satisfy local customs regulations and the requirements of the IMDG Code (WSP Australia Pty Ltd, 2023). This documentation contains a list of the cargo types and, in the case of sodium cyanide and any other hazardous cargo the quantity, unique packaging numbers, stowage reference and emergency response procedures.

Hamburg Sud requires a Dangerous Good Declaration Form to be completed and requires that their customers adhere to mandatory requirements applicable under national and international government regulations and under IMDG Code 5.4.1. (Hamburg Sud, 2022).

g) Does the ship carrying the cyanide have a list or manifest identifying the presence and location of the cyanide or a detailed stowage plan including this information, as required under Section 5.4.3.1 of the DG Code?

Orica's manufacturing facility and transfer stations are ICMC certified, sodium cyanide is packaged and transported in accordance with international regulatory standards, such as the United Nations Recommendation on the Transport of Dangerous Goods Model Regulations (United Nations, 2021) and National Codes of Practice such as the Australian Code for the Transport of Dangerous Goods by Road or Rail (NTC, 2022) thereby meeting the requirements of the political jurisdictions through which the loads will pass.

According to Section 5.4 of the ADG Code, Chapter 5.4 of UN22 (United Nations, 2021) outlines the necessary documentation for international, intermodal shipping. As per section 5.4.1.1.1 of this report, it is the responsibility of the consignor, who is offering dangerous goods for transport, to provide the carrier with relevant information about those goods. This information can be supplied via a dangerous goods transport document or, if the carrier agrees, through another method (United Nations, 2021).

In line with IMDG Code, Orica complete a document known as the Multimodal Dangerous Goods Form for the transport of dangerous goods (AMSA, n.d). This form complies with the requirements of SOLAS 74, Chapter VII, Regulation 4 and The International Convention for the Prevention of Pollution from Ships (MARPOL) 73/78, Annex III, Regulation 4 (ICMI, 2021). It includes a container packaging certificate that meets the requirements of Section 5.4.2 of the IMDG Code. Along with this form, additional documentation, in line with part 5 of the DG Code (NTC, 2022), containing a list of the cargo types, and in the case of sodium cyanide and any other hazardous cargo, the quantity, unique packaging numbers, stowage reference and emergency response procedures should be provided to the carrier. The documentation provided, including Dangerous Goods manifest (including stowage plan) and Packaging Certificates for each container ensure that adequate information is available in order to identify the correct stowage and separation of dangerous goods.

Upon arrival at the port, the ship's master is provided with a copy of this form. This information then determines the placement and segregation of the container on the vessel and handling through trans-shipment ports, if applicable.

h) Does the ship carrying the cyanide have cyanide emergency response information, as required under Section 5.4.3.2 of the DG Code?

As per Section 5.4 of the ADG Code, Chapter 5.4 of UN22 (United Nations, 2021) details the required documentation for international, multimodal transport. Section 5.4.3 stipulates that emergency response information must be readily available at all times. This information should be kept separate from the dangerous goods packages and be immediately accessible in case of an accident or incident. This includes the provision of a separate document like a safety data sheet and a separate document for 'Emergency Procedures for Ships Carrying Dangerous Goods', which should be used in conjunction with the transport document (United Nations, 2021).

Orica have developed the Cyanide Emergency Response Guide to comply fully with obligations as a supplier of cyanide (Orica, 2022) and provides the 'External Chemical Emergency Form' template for Carriers.

Emergency response procedures for ships carrying dangerous goods, including the emergency schedules to be followed in case of incidents involving dangerous substances, materials or articles, or harmful substances (marine pollutants), is regulated under the IMDG Code. In accordance with the Code, all ships, and the companies responsible for their operation, are required to maintain a Safety Management System (SMS). Within the SMS, procedures for responding to potential shipboard emergencies are required (IMO, 2024).

In line with the Code, manifests are to be provided to the vessel Master and contain emergency response information. The *Multimodal Dangerous Goods Form* also includes emergency response information.

i) Does the ship comply with the stowage and separation requirements of Part 7 of the DG Code?

According to Section 7.1.1.3 of the United Nations (UN) guidelines (United Nations, 2021), a carrier is prohibited from accepting dangerous goods for transport unless the supplier, in this case Orica, provides a copy of the dangerous goods transport documentation, including in electronic form, along with any other necessary documents. The segregation requirements for dangerous goods are detailed in Section 7.1.2.

The carrier can establish the segregation requirements as outlined in the UN guidelines based on the Multimodal Dangerous Goods Form (AMSA, n.d) provided by Orica, along with the additional required labelling and documentation.

In Orica's Emergency Response Guide (Orica, 2022), the conditions for storing cyanide are specified in Section 2.3 'Methods of Transport'. It is also stated that these conditions should comply with the Australian Standard AS/NZS 4452:1997, which is related to the Storage and Handling of Toxic Substances.

Hamburg has specially trained employees on board their ships that carry dangerous goods. These employees ensure that the cargo is stowed and secured according to the regulations applying to the respective class of dangerous goods (Hamburg Sud, 2024a).

Transport Practice 1.6: Track cyanide shipments to prevent losses during transport

Hamburg Sud uses "Track & Trace" to allow clients to track their shipments. Clients can track their shipment by entering their container number, booking number in Hamburg Sud's program via their website or email (Hamburg Sud, 2024b).

Transport Practice 2.1: Store cyanide in a manner that minimises the potential for accidental releases

Orica's Emergency Response Guide for Sodium Cyanide provides the storage requirements for Cyanide. Solid sodium cyanide is usually stored and transported in Composite Intermediate Bulk Containers (IBCs) that can hold between 800 and 1100 kilograms. The sodium cyanide is packed into a single-use woven polypropylene bulk bag, which is hermetically sealed within a polyethylene bag that lines the interior of the wooden IBC. This entire package (the composite IBC) has been thoroughly tested and approved according to the United Nations Recommendations for the Transport of Dangerous Goods, Model Regulations (Orica, 2022). As per the approval conditions, the sodium cyanide composite IBCs can only be transported inside a sealed 20-foot general-purpose shipping container. The sodium cyanide must stay within the shipping container throughout all stages of its distribution and can only be unpacked at the mine site.

Additionally, solid sodium cyanide can be transported in specially designed and constructed bulk sparge isotank containers. These containers can hold 20-24 tonnes of bulk solid cyanide. These isotanks are designed, built, and approved to international standards in line with the IMDG Code, making them suitable for transport by road, rail, and sea (Orica, 2022).

As per Orica's Emergency Response Guide for Sodium Cyanide, sodium cyanide should be stored in a dry, cool, and well-ventilated area, secured and under surveillance. Access to the storage area and the product should be limited to authorised personnel who have been trained in cyanide hazards.

Bulk sparge isotainers and shipping containers containing composite IBCs are placarded with and emergency information panel (EIP) detailing the proper shipping name, dangerous goods class number, UN number, HAZCHEM Code and emergency contact information. Containers are placarded with the environmentally hazardous substance markings (United Nations, 2021). Product labels are provided on the side of the IBC that allows forklift access via the pallet base. IBCs are placed into shipping containers so that the label is facing outwards.

Orica's Sodium Cyanide Transport Management Plan (Orica, 2024) stipulates that agents, distributors, and transport companies are obligated to ensure compliance with all legal requirements related to the transport and storage of sodium cyanide. They are also tasked with notifying Orica of any violations or breaches of these legal requirements.

All packaging and transportation of Orica's sodium cyanide complies with the ADG and the IMDG Code (Orica, 2014a). The codes are to ensure the safe transport of dangerous goods and thus minimise the potential for accidental release. Hamburg Sud also requires that packaging meetings the UN Package test standards that are described in IMDG code part 6 for the transport of dangerous goods (Hamburg Sud, 2022b). Hamburg's specially trained dangerous goods employees stow and secure cargo on the ship according to international standards (Hamburg Sud, 2024a) which minimise the potential for accidental releases.

Transport Practice 3.1: Prepare detailed emergency response plans for potential cyanide releases

Orica has developed the Emergency Response Guide for Sodium Cyanide (Orica, 2022). This guide stipulates that the first responders should immediately get in touch with trained personnel, such as local site management or emergency services, to establish a basic command structure for managing the situation and providing the necessary emergency response. This includes alerting others in the immediate vicinity of the spill, barricading the area if necessary to prevent exposure, and documenting key information about the scene (e.g.,, location, what happened, who is involved).

After these initial steps, first responders will need to apply their knowledge specific to sodium cyanide to effectively manage casualties, provide appropriate medical treatment, and carry out safe and proper product recovery, site remediation, and decontamination activities.

According to Orica's Transport Management Plan (Orica, 2024), the emergency response plan should cover the entire delivery route. While Orica's responsibilities are limited to the aspects of supply for which it is contractually accountable, agents, distributors, and transport companies must have an appropriate emergency response plan to handle any sodium cyanide incidents within their contractual responsibilities.

The EmS Guide provides guidance on Emergency Response Procedures for Ships Carrying Dangerous Goods, including the Emergency Schedules (EmS), to be followed in case of incidents involving dangerous substances, materials or articles, or harmful substances (marine pollutants). This is regulated under the International Maritime Dangerous Goods Code (IMDG Code) which Hamburg subscribes to (IMO, 2024).

Hamburg operates in compliance with the International Safety Management Code (ISM) Code (Hamburg Sud, N.D.) which provides an international standard for the safe management and operation of ships, and includes the requirement of emergency plans.

Conclusion

Based on the evidence reviewed, this due diligence did not find significant issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work. Instead, it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

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A5 Sinotrans Container Lines

12 March 2024

20360521-Carrier- 004. RevA

Author: Megan Wood Approved: Rudi Seebach

Carrier due diligence executive summary

WSP conducted a due diligence of Sinotrans Container Lines during March 2024 on behalf of Orica Australia Pty Ltd (Orica).

The assessment was reviewed by Rudi Seebach who meets the ICMI requirements for a Transport Technical Specialist.

The following items, as detailed in the ICMI's Auditor Guidance for Use of Cyanide Transportation Verification Protocol (ICMI, 2021), were addressed within the due diligence:

- Transport Practice 1.1 (Questions 1-4 and 6)
- Transport Practice 1.5 (Question 1, Items g-i)
- Transport Practice 1.6
- Transport Practice 2.1
- Transport Practice 3.1.

The ICMI's Auditor Guidance for Use of Cyanide Transportation Verification Protocol (ICMI, 2021) was used to conduct the due diligence assessment. It was not possible during this due diligence to physically inspect operations, as such the review was based on information obtained from previous due diligence reviews, ICMI audit reports and publicly available online information. Based on the evidence reviewed, this due diligence did not find issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance of for future work; rather it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

Overview of Sinotrans Container Lines

Sinotrans Limited, commonly known as Sinotrans, was established on November 20, 2002, and went public on the Hong Kong Stock Exchange in 2003. As a key subsidiary and the sole logistics platform of China Merchants Group, Sinotrans Limited is dedicated to creating a top-tier business platform that delivers smart logistics solutions (Sinotrans Limited, 2024).

ICMC transport verification protocol assessment

Transport Practice 1.1: Select cyanide transport routes to minimise the potential for accidents and releases

Orica procedure “Selection of Transport Routes Transportation of Sodium Cyanide to Customer Sites or Stock Points” (Orica, 2024a) aims to minimise the risk associated with the transportation of sodium cyanide while maintaining a safe, reliable, efficient, and cost-effective delivery system to customer sites and Orica stock points throughout the world. The procedure applies to the selection of delivery routes for Orica sodium cyanide and states that the “selection of route(s) is to be affected by the overall assessment of the risks associated with the utilisation of such route, taking into particular consideration likelihood of an incident occurring and the consequence of such an incident” (Orica, 2024a). This procedure is applicable to all routes used for the transportation of Orica sodium cyanide as well as to Orica’s contracted transportation agencies.

Orica’s “Route Conditions” procedure is used to assist the selection of cyanide transport routes when the original route cannot be used to minimise potential for accidents and releases. The procedure’s intent is “to ensure that relevant feedback from transportation agencies relating to routes utilised for the movement of sodium cyanide is provided through to Orica for the appropriate assessment and follow on actions, as appropriate” (Orica, 2024d). Alteration to chosen route conditions are to be advised by the transportation agency through to the regional Orica Head of Supply, or their delegate, where the change is being implemented. Possible alternatives are then assessed by Orica Head of Supply or their delegate and passed through to the Health, Safety and Environment (HS&E) Officer for update of the applicable route assessment.

An export or International route will include the following:

- Orica production, packaging, and despatch
- Road and rail transportation to port
- International shipping to destination port
- Road transportation to customer (mining operation).

In some instances, sodium cyanide shipments are unloaded at terminals en route to its destination. This is known as trans-shipping and involves a temporary set down within a port facility before loading onto another vessel for continuation of the delivery. It is at the discretion of Sinotrans to determine when and where this occurs.

Sinotrans require companies utilising their carrier services to provide evidence that their product packaging has been approved by government regulators and tested in accordance with International Maritime Organization (IMO) Dangerous Goods (DG) Code.

Transport Practice 1.5: Follow international standards for transportation of cyanide by sea

Orica’s manufacturing facility and transfer stations are ICMC certified (Orica, 2024c). Orica’s sodium cyanide is packaged and transported in accordance with the Australian Dangerous Goods (ADG) Code and the IMDG Code (Orica, 2014a), thereby meeting the international standards required for the transportation of dangerous goods by sea.

Orica procedure “Carrier Assessment” provides the framework for ensuring that carriers and their contractors are assessed at regular intervals to ensure that, amongst others, storage, safety, security, maintenance, and emergency response standards are being maintained (Orica, 2024b).

Carriers are required to provide manifest documentation to the destination port to satisfy local customs regulations and the requirements of the IMDG Code. This documentation contains a list of the cargo types and, in the case of sodium cyanide and any other hazardous cargo the quantity, unique packaging numbers, stowage reference and emergency response procedures.

For sea transportation operations, the Sinotrans Group holds qualifications as a non-vessel-operating carrier, customs declarer and inspector, international freight forwarder, and domestic waterway transportation operator (supporting business). The Group strictly adheres to relevant laws and regulations, including the Maritime Law of the People's Republic of China, Regulations of the People's Republic of China on International Sea Transportation, and Regulations on the Management of Domestic Waterway Transportation. Additionally, the Group has established systems such as the Regulations on the Management of Company Bills of Lading and the Procedures for the Operation of Company Bills of Lading (Sinotrans Limited, 2022).

g) Does the ship carrying the cyanide have a list or manifest identifying the presence and location of the cyanide or a detailed stowage plan including this information, as required under Section 5.4.3.1 of the DG Code?

Orica's manufacturing facility and transfer stations are ICMC certified, sodium cyanide is packaged and transported in accordance with international regulatory standards, such as the United Nations Recommendation on the Transport of Dangerous Goods Model Regulations (United Nations, 2021) and National Codes of Practice such as the Australian Code for the Transport of Dangerous Goods by Road or Rail (NTC, 2022) thereby meeting the requirements of the political jurisdictions through which the loads will pass.

According to Section 5.4 of the ADG Code, Chapter 5.4 of UN22 (United Nations, 2021) outlines the necessary documentation for international, intermodal shipping. As per section 5.4.1.1.1 of this report, it is the responsibility of the consignor, who is offering dangerous goods for transport, to provide the carrier with relevant information about those goods. This information can be supplied via a dangerous goods transport document or, if the carrier agrees, through another method (United Nations, 2021).

In line with IMDG Code, Orica completes a document known as the Multimodal Dangerous Goods Form for the transport of dangerous goods (AMSA, n.d). This form complies with the requirements of Safety of Life at Sea (SOLAS) 74, Chapter VII, Regulation 4 and The International Convention for the Prevention of Pollution from Ships (MARPOL) 73/78, Annex III, Regulation 4 (ICMI, 2021). It includes a container packaging certificate that meets the requirements of Section 5.4.2 of the IMDG Code. Along with this form, additional documentation, in line with part 5 of the ADG Code (NTC, 2022), containing a list of the cargo types, and in the case of sodium cyanide and any other hazardous cargo, the quantity, unique packaging numbers, stowage reference and emergency response procedures should be provided to the carrier. The documentation provided, including Dangerous Goods manifest (including stowage plan) and Packaging Certificates for each container ensure that adequate information is available in order to identify the correct stowage and separation of dangerous goods.

Upon arrival at the port, the ship's master is provided with a copy of this form. This information then determines the placement and segregation of the container on the vessel and handling through trans-shipment ports, if applicable.

h) Does the ship carrying the cyanide have cyanide emergency response information, as required under Section 5.4.3.2 of the DG Code?

As per Section 5.4 of the ADG Code, Chapter 5.4 of UN22 (United Nations, 2021) details the required documentation for international, multimodal transport. Section 5.4.3 stipulates that emergency response information must be readily available at all times. This information should be kept separate from the dangerous goods packages and be immediately accessible in case of an accident or incident. This includes the provision of a separate document like a safety data sheet and a separate document for 'Emergency Procedures for Ships Carrying Dangerous Goods', which should be used in conjunction with the transport document (United Nations, 2021).

Orica have developed the Cyanide Emergency Response Guide to comply fully with obligations as a supplier of cyanide (Orica, 2022) and provides the 'External Chemical Emergency Form' template for Carriers.

Emergency response procedures for ships carrying dangerous goods, including the emergency schedules to be followed in case of incidents involving dangerous substances, materials or articles, or harmful substances (marine pollutants), is regulated under the IMDG Code. In accordance with the Code, all ships, and the companies responsible for their operation, are required to maintain a Safety Management System (SMS). Within the SMS, procedures for responding to potential shipboard emergencies are required (IMO, 2024).

Sinotrans boasts accreditation by leading institutions for quality management (International Standards Organization (ISO) 9001:2015), environmental management (ISO 14001:2015), and occupational health and safety (ISO 45001:2018). Furthermore, standardized operating procedures and safety regulations are implemented across their entire network. To guarantee both safety and efficiency, Sinotrans develops detailed and practical contingency plans for each logistics segment (Sinotrans Limited, 2024a).

In line with the Code, manifests are to be provided to the vessel Master and contain emergency response information. The *Multimodal Dangerous Goods Form* also includes emergency response information.

i) Does the ship comply with the stowage and separation requirements of Part 7 of the DG Code?

According to Section 7.1.1.3 of the United Nations (UN) guidelines (United Nations, 2021), a carrier is prohibited from accepting dangerous goods for transport unless the supplier, in this case Orica, provides a copy of the dangerous goods transport documentation, including in electronic form, along with any other necessary documents. The segregation requirements for dangerous goods are detailed in Section 7.1.2.

The carrier can establish the segregation requirements as outlined in the UN guidelines based on the Multimodal Dangerous Goods Form (AMSA, n.d) provided by Orica, along with the additional required labelling and documentation.

In Orica's Emergency Response Guide (Orica, 2022), the conditions for storing cyanide are specified in Section 2.3 'Methods of Transport'. It is also stated that these conditions should comply with the Australian Standard AS/NZS 4452:1997, which is related to the Storage and Handling of Toxic Substances.

Sinotrans services include integrated booking, export customs declaration, document creation, and system transmission related to international transport such as container stowage. These services also encompass other export-related tasks and overall management (Sinotrans Limited, 2024d).

Transport Practice 1.6: Track cyanide shipments to prevent losses during transport

Sinotrans oversee supplier management on behalf of customers. They streamline and optimise the in-transit inventory through an integrated document creation system for customs declarations and commodity inspections (Sinotrans Limited, 2024d). Sinotrans Logistics Information System (MIS) adopts IoT technologies, offering comprehensive logistics visualisation and value-added services (Sinotrans Limited, 2024b). Sinotrans Container Lines demonstrates global reach, with offices in Australia for example, and allows shipment tracking via Bill of Lading or booking number on external tracking websites for cargo tracking.

Transport Practice 2.1: Store cyanide in a manner that minimises the potential for accidental releases

Orica's Emergency Response Guide for Sodium Cyanide provides the storage requirements for sodium cyanide. Solid sodium cyanide is usually stored and transported in Composite Intermediate Bulk Containers (IBCs) that can hold between 800 and 1100 kilograms. The sodium cyanide is packed into a single-use woven polypropylene bulk bag, which is hermetically sealed within a polyethylene bag that lines the interior of the wooden IBC. This entire package (the composite IBC) has been thoroughly tested and approved according to the United Nations Recommendations for the Transport of Dangerous Goods, Model Regulations (Orica, 2022). As per the approval conditions, the sodium cyanide composite IBCs can only be transported inside a sealed 20-foot general-purpose shipping container. The sodium cyanide must stay within the shipping container throughout all stages of its distribution and can only be unpacked at the mine site.

Additionally, solid sodium cyanide can be transported in specially designed and constructed bulk sparge isotank containers. These containers can hold 20-24 tonnes of bulk solid cyanide. These isotanks are designed, built, and approved to International standards in line with the IMDG Code, making them suitable for transport by road, rail, and sea (Orica, 2022).

As per Orica's Emergency Response Guide for Sodium Cyanide, sodium cyanide should be stored in a dry, cool, and well-ventilated area, secured and under surveillance. Access to the storage area and the product should be limited to authorised personnel who have been trained in cyanide hazards.

Bulk sparge isotainers and shipping containers containing composite IBCs are placarded with and emergency information panel (EIP) detailing the proper shipping name, dangerous goods class number, UN number, HAZCHEM Code and emergency contact information. Containers are placarded with the environmentally hazardous substance markings (United Nations, 2021). Product labels are provided on the side of the IBC that allows forklift access via the pallet base. IBCs are placed into shipping containers so that the label is facing outwards.

Orica's Sodium Cyanide Transport Management Plan (Orica, 2024) stipulates that agents, distributors, and transport companies are obligated to ensure compliance with all legal requirements related to the transport and storage of sodium cyanide. They are also tasked with notifying Orica of any violations or breaches of these legal requirements.

Transport Practice 3.1: Prepare detailed emergency response plans for potential cyanide releases

Orica has developed the Emergency Response Guide for Sodium Cyanide (Orica, 2022). This guide stipulates that the first responders should immediately get in touch with trained personnel, such as local site management or emergency services, to establish a basic command structure for managing the situation and providing the necessary emergency response. This includes alerting others in the immediate vicinity of the spill, barricading the area if necessary to prevent exposure, and documenting key information about the scene (e.g.,, location, what happened, who is involved).

After these initial steps, first responders will need to apply their knowledge specific to sodium cyanide to effectively manage casualties, provide appropriate medical treatment, and carry out safe and proper product recovery, site remediation, and decontamination activities.

According to Orica's Transport Management Plan (Orica, 2024), the emergency response plan should cover the entire delivery route. Orica's responsibilities are limited to the aspects of supply for which it is contractually accountable. Agents, distributors, and transport companies must have an appropriate emergency response plan to handle any sodium cyanide incidents within their contractual responsibilities.

The EmS Guide provides guidance on Emergency Response Procedures for Ships Carrying Dangerous Goods, including the Emergency Schedules (EmS), to be followed in case of incidents involving dangerous substances, materials or articles, or harmful substances (marine pollutants). This is regulated under the International Maritime Dangerous Goods Code (IMDG Code) which Sinotrans subscribes to (IMO, 2024).

In 2022 Sinotrans initiated a three-year campaign to strengthen and enhance work safety, with ongoing improvements to safety management. This included comprehensive initiatives to manage hazardous chemicals listed negatively and projects to improve road transport safety (Sinotrans Limited, 2022).

Conclusion

Based on the evidence reviewed, this due diligence did not find significant issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work. Instead, it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

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A6 Tanto Intim Line

12 March 2024

20360521-Carrier-005. RevA

Author: Lilly Kelly

Approved: Rudi Seebach

Carrier due diligence executive summary

WSP conducted a due diligence of Tanto Intim Line (Tanto) during March 2024 on behalf of Orica Australia Pty Ltd (Orica).

The assessment was reviewed by Rudi Seebach who meets the ICMI requirements for a Transport Technical Specialist.

The following items, as detailed in the ICMI's Auditor Guidance for Use of Cyanide Transportation Verification Protocol (ICMI, 2021), were addressed within the due diligence:

- Transport Practice 1.1 (Questions 1-4 and 6)
- Transport Practice 1.5 (Question 1, Items g-i)
- Transport Practice 1.6
- Transport Practice 2.1
- Transport Practice 3.1.

The ICMI's Auditor Guidance for Use of Cyanide Transportation Verification Protocol (ICMI, 2021) was used to conduct the due diligence assessment. It was not possible during this due diligence to physically inspect operations, as such the review was based on information obtained from previous due diligence reviews, ICMI audit reports and publicly available online information. Based on the evidence reviewed, this due diligence did not find issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance of for future work; rather it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

Overview of Tanto Intim Line

Tanto is a family-owned company that was established in 1971. Tanto has more than 50,000 containers of different sizes and an average age of less than five years, as well as a fleet of over 50 container vessels with a total capacity of 26.731 twenty-foot equivalent units (TEUs) (Tanto, 2021a). With their head office located in Surabaya, Java, Tanto has 29 offices across Indonesia. Tanto has 29 service branches and ships to 32 ports throughout Indonesia (Tanto, 2021b). They are International Standards Organization (ISO) 9001:2015 (quality assurance) certified as well as 45001:2018 (occupational health and safety management) (Tanto, 2021a).

ICMC transport verification protocol assessment

Transport Practice 1.1: Select cyanide transport routes to minimise the potential for accidents and releases

Orica procedure “Selection of Transport Routes Transportation of Sodium Cyanide to Customer Sites or Stock Points” (Orica, 2024a) aims to minimise the risk associated with the transportation of sodium cyanide while maintaining a safe, reliable, efficient, and cost-effective delivery system to customer sites and Orica stock points throughout the world. The procedure applies to the selection of delivery routes for Orica sodium cyanide and states that the “selection of route(s) is to be affected by the overall assessment of the risks associated with the utilisation of such route, taking into particular consideration likelihood of an incident occurring and the consequence of such an incident” (Orica, 2024a). This procedure is applicable to all routes used for the transportation of Orica sodium cyanide as well as to Orica’s contracted transportation agencies.

Orica’s “Route Conditions” procedure is used to assist the selection of cyanide transport routes when the original route cannot be used to minimise potential for accidents and releases. The procedure’s intent is “to ensure that relevant feedback from transportation agencies relating to routes utilised for the movement of sodium cyanide is provided through to Orica for the appropriate assessment and follow on actions, as appropriate” (Orica, 2024d). Alteration to chosen route conditions are to be advised by the transportation agency through to the regional Orica Head of Supply, or their delegate, where the change is being implemented. Possible alternatives are then assessed by Orica Head of Supply or their delegate and passed through to the Health, Safety and Environment (HS&E) Officer for update of the applicable route assessment.

An export or International route will include the following:

- Orica production, packaging, and despatch
- Road and rail transportation to port
- International shipping to destination port
- Road transportation to customer (mining operation).

In some instances, sodium cyanide shipments are unloaded at terminals en route to its destination. This is known as trans-shipping and involves a temporary set down within a port facility before loading onto another vessel for continuation of the delivery. It is at the discretion of Tanto to determine when and where this occurs.

The International Maritime Dangerous Goods (IMDG) Code was given mandatory status under the Safety of Life at Sea (SOLAS) convention in 2004 (IMO, 2024). Tanto must conduct itself under this code and this extends to the selection of terminals used for trans-shipping. Tanto’s main shipping routes are to and from Jakarta and Surbaya, the two largest cities in Indonesia (Tanto, 2021c). As they ship solely throughout Indonesia, they can pick the best routes to each port that minimises the potential for accidents and releases.

Transport Practice 1.5: Follow international standards for transportation of cyanide by sea

Orica's manufacturing facility and transfer stations are ICMC certified (Orica, 2024c). Orica's sodium cyanide is packaged and transported in accordance with the Australian Dangerous Goods (ADG) Code and the IMDG Code (Orica, 2014a), thereby meeting the international standards required for the transportation of dangerous goods by sea.

Orica procedure "Carrier Assessment" provides the framework for ensuring that carriers and their contractors are assessed at regular intervals to ensure that, amongst others, storage, safety, security, maintenance, and emergency response standards are being maintained (Orica, 2024b).

Carriers are required to provide manifest documentation to the destination port to satisfy local customs regulations and the requirements of the IMDG Code. This documentation contains a list of the cargo types and, in the case of sodium cyanide and any other hazardous cargo the quantity, unique packaging numbers, stowage reference and emergency response procedures.

Indonesia is an International Maritime Organization (IMO) member (MEPSEAS, 2019) which means they require adherence to the IMDG Code. They use the Directorate General Sea of Transportation (DGST) to ensure that all Indonesian-registered ships comply with national and international rules and regulations on safety, security, and marine environment protection. Indonesia regulates this through DGST audits and certifications (MEPSEAS, 2019). Tanto's International Standards Organization (ISO) qualifications meet globally recognised standards for quality management and occupational health and safety management.

g) Does the ship carrying the cyanide have a list or manifest identifying the presence and location of the cyanide or a detailed stowage plan including this information, as required under Section 5.4.3.1 of the DG Code?

Orica's manufacturing facility and transfer stations are ICMC certified, sodium cyanide is packaged and transported in accordance with international regulatory standards, such as the United Nations Recommendation on the Transport of Dangerous Goods Model Regulations (United Nations, 2021) and National Codes of Practice such as the Australian Code for the Transport of Dangerous Goods by Road or Rail (NTC, 2022) thereby meeting the requirements of the political jurisdictions through which the loads will pass.

According to Section 5.4 of the ADG Code, Chapter 5.4 of UN22 (United Nations, 2021) outlines the necessary documentation for international, intermodal shipping. As per section 5.4.1.1.1 of this report, it is the responsibility of the consignor, who is offering dangerous goods for transport, to provide the carrier with relevant information about those goods. This information can be supplied via a dangerous goods transport document or, if the carrier agrees, through another method (United Nations, 2021).

In line with IMDG Code, Orica completes a document known as the Multimodal Dangerous Goods Form for the transport of dangerous goods (AMSA, n.d). This form complies with the requirements of SOLAS 74, Chapter VII, Regulation 4 and The International Convention for the Prevention of Pollution from Ships (MARPOL) 73/78, Annex III, Regulation 4 (ICMI, 2021). It includes a container packaging certificate that meets the requirements of Section 5.4.2 of the IMDG Code. Along with this form, additional documentation, in line with part 5 of the ADG Code (NTC, 2022), containing a list of the cargo types, and in the case of sodium cyanide and any other hazardous cargo, the quantity, unique packaging numbers, stowage reference and emergency response procedures should be provided to the carrier. The documentation provided, including Dangerous Goods manifest (including stowage plan) and Packaging Certificates for each container ensure that adequate information is available in order to identify the correct stowage and separation of dangerous goods.

Upon arrival at the port, the ship's master is provided with a copy of this form. This information then determines the placement and segregation of the container on the vessel and handling through trans-shipment ports, if applicable.

h) Does the ship carrying the cyanide have cyanide emergency response information, as required under Section 5.4.3.2 of the DG Code?

As per Section 5.4 of the ADG Code, Chapter 5.4 of UN22 (United Nations, 2021) details the required documentation for international, multimodal transport. Section 5.4.3 stipulates that emergency response information must be readily available at all times. This information should be kept separate from the dangerous goods packages and be immediately accessible in case of an accident or incident. This includes the provision of a separate document like a safety data sheet and a separate document for 'Emergency Procedures for Ships Carrying Dangerous Goods', which should be used in conjunction with the transport document (United Nations, 2021).

Orica have developed the Cyanide Emergency Response Guide to comply fully with obligations as a supplier of cyanide (Orica, 2022) and provides the 'External Chemical Emergency Form' template for Carriers.

Emergency response procedures for ships carrying dangerous goods, including the emergency schedules to be followed in case of incidents involving dangerous substances, materials or articles, or harmful substances (marine pollutants), is regulated under the IMDG Code. In accordance with the Code, all ships, and the companies responsible for their operation, are required to maintain a Safety Management System (SMS). Within the SMS, procedures for responding to potential shipboard emergencies are required (IMO, 2024).

In line with the Code, manifests are to be provided to the vessel Master and contain emergency response information. The *Multimodal Dangerous Goods Form* also includes emergency response information.

ISO 45001:2018 standard specifies requirements for an occupational health and safety management system. It establishes criteria that includes emergency planning and legal and regulatory compliance (ISO, 2022). Tanto's certification with ISO 45001 signifies that they are compliant with all requirements and will have emergency response information readily available.

i) Does the ship comply with the stowage and separation requirements of Part 7 of the DG Code?

According to Section 7.1.1.3 of the United Nations (UN) guidelines (United Nations, 2021), a carrier is prohibited from accepting dangerous goods for transport unless the supplier, in this case Orica, provides a copy of the dangerous goods transport documentation, including in electronic form, along with any other necessary documents. The segregation requirements for dangerous goods are detailed in Section 7.1.2.

The carrier can establish the segregation requirements as outlined in the UN guidelines based on the Multimodal Dangerous Goods Form (AMSA, n.d) provided by Orica, along with the additional required labelling and documentation.

In Orica's Emergency Response Guide (Orica, 2022), the conditions for storing cyanide are specified in Section 2.3 'Methods of Transport'. It is also stated that these conditions should comply with the Australian Standard AS/NZS 4452:1997, which is related to the Storage and Handling of Toxic Substances.

Transport Practice 1.6: Track cyanide shipments to prevent losses during transport

Tanto has a Container Tracking system available through their website (Tanto, 2021a). The customer can input their given number to track their shipment and review the latest information that has been made available.

Transport Practice 2.1: Store cyanide in a manner that minimises the potential for accidental releases

Orica’s Emergency Response Guide for Sodium Cyanide provides the storage requirements for sodium cyanide. Solid sodium cyanide is usually stored and transported in Composite Intermediate Bulk Containers (IBCs) that can hold between 800 and 1100 kilograms. The sodium cyanide is packed into a single-use woven polypropylene bulk bag, which is hermetically sealed within a polyethylene bag that lines the interior of the wooden IBC. This entire package (the composite IBC) has been thoroughly tested and approved according to the United Nations Recommendations for the Transport of Dangerous Goods, Model Regulations (Orica, 2022). As per the approval conditions, the sodium cyanide composite IBCs can only be transported inside a sealed 20-foot general-purpose shipping container. The sodium cyanide must stay within the shipping container throughout all stages of its distribution and can only be unpacked at the mine site.

Additionally, solid sodium cyanide can be transported in specially designed and constructed bulk sparge isotank containers. These containers can hold 20-24 tonnes of bulk solid cyanide. These isotanks are designed, built, and approved to international standards in line with the IMDG Code, making them suitable for transport by road, rail, and sea (Orica, 2022).

As per Orica’s Emergency Response Guide for Sodium Cyanide, sodium cyanide should be stored in a dry, cool, and well-ventilated area, secured and under surveillance. Access to the storage area and the product should be limited to authorised personnel who have been trained in cyanide hazards.

Bulk sparge isotainers and shipping containers containing composite IBCs are placarded with and emergency information panel (EIP) detailing the proper shipping name, dangerous goods class number, UN number, HAZCHEM Code and emergency contact information. Containers are placarded with the environmentally hazardous substance markings (United Nations, 2021). Product labels are provided on the side of the IBC that allows forklift access via the pallet base. IBCs are placed into shipping containers so that the label is facing outwards.

Orica’s Sodium Cyanide Transport Management Plan (Orica, 2024) stipulates that agents, distributors, and transport companies are obligated to ensure compliance with all legal requirements related to the transport and storage of sodium cyanide. They are also tasked with notifying Orica of any violations or breaches of these legal requirements.

Tanto’s ISO 9001 certification means that they have approved quality management, and they have effective processes and trained staff to deliver their products and services to their customers (ISO, 2015). This allows them to comply to Orica’s needs and the requirements of shipping sodium cyanide.

Transport Practice 3.1: Prepare detailed emergency response plans for potential cyanide releases

Orica has developed the Emergency Response Guide for Sodium Cyanide (Orica, 2022). This guide stipulates that the first responders should immediately get in touch with trained personnel, such as local site management or emergency services, to establish a basic command structure for managing the situation and providing the necessary emergency response. This includes alerting others in the immediate vicinity of the spill, barricading the area if necessary to prevent exposure, and documenting key information about the scene (e.g.,, location, what happened, who is involved).

After these initial steps, first responders will need to apply their knowledge specific to sodium cyanide to effectively manage casualties, provide appropriate medical treatment, and carry out safe and proper product recovery, site remediation, and decontamination activities.

According to Orica’s Transport Management Plan (Orica, 2024), the emergency response plan should cover the entire delivery route. Orica’s responsibilities are limited to the aspects of supply for which it is contractually accountable. Agents, distributors, and transport companies must have an appropriate emergency response plan to handle any sodium cyanide incidents within their contractual responsibilities.

The EmS Guide provides guidance on Emergency Response Procedures for Ships Carrying Dangerous Goods, including the Emergency Schedules (EmS), to be followed in case of incidents involving dangerous substances, materials or articles, or harmful substances (marine pollutants). This is regulated under the International Maritime Dangerous Goods Code (IMDG Code) which Tanto subscribes to (IMO, 2024).

Tanto's ISO 45001 certification means that they have an approved occupational health and safety management system that meets international standards. Part of this management system requires emergency response planning (ISO, 2022).

Conclusion

Based on the evidence reviewed, this due diligence did not find significant issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work. Instead, it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

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A7 Maersk

12 March 2024

20360521-Carrier- 006. RevA

Author: Megan Wood Approved: Rudi Seebach

Carrier due diligence executive summary

WSP conducted a due diligence of Maersk during March 2024 on behalf of Orica Australia Pty Ltd (Orica).

The assessment was reviewed by Rudi Seebach who meets the ICMI requirements for a Transport Technical Specialist.

The following items, as detailed in the ICMI's Auditor Guidance for Use of Cyanide Transportation Verification Protocol (ICMI, 2021), were addressed within the due diligence:

- Transport Practice 1.1 (Questions 1-4 and 6)
- Transport Practice 1.5 (Question 1, Items g-i)
- Transport Practice 1.6
- Transport Practice 2.1
- Transport Practice 3.1.

The ICMI's Auditor Guidance for Use of Cyanide Transportation Verification Protocol (ICMI, 2021) was used to conduct the due diligence assessment. It was not possible during this due diligence to physically inspect operations, as such the review was based on information obtained from previous due diligence reviews, ICMI audit reports and publicly available online information. Based on the evidence reviewed, this due diligence did not find issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance of for future work; rather it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

Overview of Maersk

Maersk, headquartered in Copenhagen, Denmark, operates a fleet of 700+ of container vessels with worldwide shipping coverage. Maersk operates a container booking and tracking system called the Global Customer Service System (GCSS). This system is the management tool for the proper stowage and handling of dangerous goods cargo and allows Maersk to have 30 million touchpoints per year with over 59,000 customers (MarineInsight, 2023).

Maersk's vessels are registered by the Lloyd's Register Group, which provides classification and certification of ships, and inspects and approves important components and accessories. Maersk also has current ISO 14001:2015 for Environmental management systems and certificates for its vessels under the International Ship and Port Facility Security (ISPS) Code developed by the IMO (Lloyd's Register EMEA, 2021).

ICMC transport verification protocol assessment

Transport Practice 1.1: Select cyanide transport routes to minimise the potential for accidents and releases

Orica procedure “Selection of Transport Routes Transportation of Sodium Cyanide to Customer Sites or Stock Points” (Orica, 2024a) aims to minimise the risk associated with the transportation of sodium cyanide while maintaining a safe, reliable, efficient, and cost-effective delivery system to customer sites and Orica stock points throughout the world. The procedure applies to the selection of delivery routes for Orica sodium cyanide and states that the “selection of route(s) is to be affected by the overall assessment of the risks associated with the utilisation of such route, taking into particular consideration likelihood of an incident occurring and the consequence of such an incident” (Orica, 2024a). This procedure is applicable to all routes used for the transportation of Orica sodium cyanide as well as to Orica’s contracted transportation agencies.

Orica’s “Route Conditions” procedure is used to assist the selection of cyanide transport routes when the original route cannot be used to minimise potential for accidents and releases. The procedure’s intent is “to ensure that relevant feedback from transportation agencies relating to routes utilised for the movement of sodium cyanide is provided through to Orica for the appropriate assessment and follow on actions, as appropriate” (Orica, 2024d). Alteration to chosen route conditions are to be advised by the transportation agency through to the regional Orica Head of Supply, or their delegate, where the change is being implemented. Possible alternatives are then assessed by Orica Head of Supply or their delegate and passed through to the Health, Safety and Environment (HS&E) Officer for update of the applicable route assessment.

An export or international route will include the following:

- Orica production, packaging, and despatch
- Road and rail transportation to port
- International shipping to destination port
- Road transportation to customer (mining operation).

In some instances, sodium cyanide shipments are unloaded at terminals en route to its destination (WSP Australia Pty Ltd, 2023). This is known as trans-shipping and involves a temporary set down within a port facility before loading onto another vessel for continuation of the delivery. It is at the discretion of Maersk to determine when and where this occurs.

The IMDG Code was given mandatory status under the Safety of Life at Sea (SOLAS) convention in 2004 (IMO, 2024). Maersk must conduct itself under this code and this extends to the selection of terminals used for trans-shipping. They have end-to-end supply chain management (SCM) to synchronise global supply chains from production to distribution, allowing for comprehensive management solutions for suppliers, carriers, and shipments, ensuring efficient cargo flow and customer satisfaction (Maersk, 2024).

Maersk require companies utilising their carrier services to provide evidence that their product packaging has been approved by government regulators and tested in accordance with International Maritime Organization (IMO) and Australian Dangerous Goods (ADG) Code.

Transport Practice 1.5: Follow international standards for transportation of cyanide by sea

Orica's manufacturing facility and transfer stations are ICMC certified (Orica, 2024c). Orica's sodium cyanide is packaged and transported in accordance with the Australian Dangerous Goods (ADG) Code and the IMDG Code (Orica, 2014a), thereby meeting the international standards required for the transportation of dangerous goods by sea.

Orica procedure "Carrier Assessment" provides the framework for ensuring that carriers and their contractors are assessed at regular intervals to ensure that, amongst others, storage, safety, security, maintenance, and emergency response standards are being maintained (Orica, 2024b).

Carriers are required to provide manifest documentation to the destination port to satisfy local customs regulations and the requirements of the IMDG Code (WSP Australia Pty Ltd, 2023). This documentation contains a list of the cargo types and, in the case of sodium cyanide and any other hazardous cargo the quantity, unique packaging numbers, stowage reference and emergency response procedures.

g) Does the ship carrying the cyanide have a list or manifest identifying the presence and location of the cyanide or a detailed stowage plan including this information, as required under Section 5.4.3.1 of the DG Code?

Orica's manufacturing facility and transfer stations are ICMC certified, sodium cyanide is packaged and transported in accordance with international regulatory standards, such as the United Nations Recommendation on the Transport of Dangerous Goods Model Regulations (United Nations, 2021) and National Codes of Practice such as the Australian Code for the Transport of Dangerous Goods by Road or Rail (NTC, 2022) thereby meeting the requirements of the political jurisdictions through which the loads will pass.

According to Section 5.4 of the ADG Code, Chapter 5.4 of UN22 (United Nations, 2021) outlines the necessary documentation for international, intermodal shipping. As per section 5.4.1.1.1 of this report, it is the responsibility of the consignor, who is offering dangerous goods for transport, to provide the carrier with relevant information about those goods. This information can be supplied via a dangerous goods transport document or, if the carrier agrees, through another method (United Nations, 2021).

In line with IMDG Code, Orica completes a document known as the Multimodal Dangerous Goods Form for the transport of dangerous goods (AMSA, n.d). This form complies with the requirements of SOLAS 74, Chapter VII, Regulation 4 and The International Convention for the Prevention of Pollution from Ships (MARPOL) 73/78, Annex III, Regulation 4 (ICMI, 2021). It includes a container packaging certificate that meets the requirements of Section 5.4.2 of the IMDG Code. Along with this form, additional documentation, in line with part 5 of the ADG Code (NTC, 2022), containing a list of the cargo types, and in the case of sodium cyanide and any other hazardous cargo, the quantity, unique packaging numbers, stowage reference and emergency response procedures should be provided to the carrier. The documentation provided, including Dangerous Goods manifest (including stowage plan) and Packaging Certificates for each container ensure that adequate information is available in order to identify the correct stowage and separation of dangerous goods.

Upon arrival at the port, the ship's master is provided with a copy of this form. This information then determines the placement and segregation of the container on the vessel and handling through trans-shipment ports, if applicable.

h) Does the ship carrying the cyanide have cyanide emergency response information, as required under Section 5.4.3.2 of the DG Code?

As per Section 5.4 of the ADG Code, Chapter 5.4 of UN22 (United Nations, 2021) details the required documentation for international, multimodal transport. Section 5.4.3 stipulates that emergency response information must be readily available at all times. This information should be kept separate from the dangerous goods packages and be immediately accessible in case of an accident or incident. This includes the provision of a separate document like a safety data sheet and a separate document for 'Emergency Procedures for Ships Carrying Dangerous Goods', which should be used in conjunction with the transport document (United Nations, 2021).

Orica have developed the Cyanide Emergency Response Guide to comply fully with obligations as a supplier of cyanide (Orica, 2022) and provides the 'External Chemical Emergency Form' template for Carriers.

Emergency response procedures for ships carrying dangerous goods, including the emergency schedules to be followed in case of incidents involving dangerous substances, materials or articles, or harmful substances (marine pollutants), is regulated under the IMDG Code. In accordance with the Code, all ships, and the companies responsible for their operation, are required to maintain a Safety Management System (SMS). Within the SMS, procedures for responding to potential shipboard emergencies are required (IMO, 2024).

In line with the Code, manifests are to be provided to the vessel Master and contain emergency response information. The *Multimodal Dangerous Goods Form* also includes emergency response information.

i) Does the ship comply with the stowage and separation requirements of Part 7 of the DG Code?

According to Section 7.1.1.3 of the United Nations (UN) guidelines (United Nations, 2021), a carrier is prohibited from accepting dangerous goods for transport unless the supplier, in this case Orica, provides a copy of the dangerous goods transport documentation, including in electronic form, along with any other necessary documents. The segregation requirements for dangerous goods are detailed in Section 7.1.2.

The carrier can establish the segregation requirements as outlined in the UN guidelines based on the Multimodal Dangerous Goods Form (AMSA, n.d) provided by Orica, along with the additional required labelling and documentation.

In Orica's Emergency Response Guide (Orica, 2022), the conditions for storing cyanide are specified in Section 2.3 'Methods of Transport'. It is also stated that these conditions should comply with the Australian Standard AS/NZS 4452:1997, which is related to the Storage and Handling of Toxic Substances.

In addition to Maersk compiling with the requirements of the IMDG Code it has created its own Risk Based Dangerous Goods Stowage principles. In response to a vessel fire in March 2018, Maersk reviewed their safety practices for stowing dangerous cargo. Fire statistics for containers, as reported to the Cargo Incident Notification System (CINS), were used to identify potential hazards. Using this data, Maersk has established a set of rules, called the Risk Based Dangerous Goods Stowage, that segment each container ship into six distinct risk tolerance zones, each determined by the specific vulnerabilities of the area (The Maritime Executive, 2018).The new rules prohibit stowing such cargo next to the accommodations block and the engine room, areas with the lowest risk tolerance. Risk tolerance is also lower below deck and in the middle of the vessel, and higher on deck fore and aft.

Transport Practice 1.6: Track cyanide shipments to prevent losses during transport

Maersk uses a Global Supply Chain Management to track shipments, and MyMaerskSupplyChain, a proprietary application developed by Maersk, which creates an integrated solution for managing supply chain, including a shipper portal, track and trace, reporting, online document management and exception management (Maersk, 2024).

In line with the Code, chain of custody documentation is to be used by Maersk to prevent the loss of cargo during shipment. This documentation includes the vessel manifest and Safety Data Sheets (SDS), which identifies the location and content of each container on the vessel. In addition, Maersk Line mandates the use of high security bolt container seals that comply with International Standards Organization (ISO) 17712 standards to enhance supply chain security (Maersk, 2006).

Transport Practice 2.1: Store cyanide in a manner that minimises the potential for accidental releases

Orica's Emergency Response Guide for Sodium Cyanide provides the storage requirements for Cyanide. Solid sodium cyanide is usually stored and transported in Composite Intermediate Bulk Containers (IBCs) that can hold between 800 and 1100 kilograms. The sodium cyanide is packed into a single-use woven polypropylene bulk bag, which is hermetically sealed within a polyethylene bag that lines the interior of the wooden IBC. This entire package (the composite IBC) has been thoroughly tested and approved according to the United Nations Recommendations for the Transport of Dangerous Goods, Model Regulations (Orica, 2022). As per the approval conditions, the sodium cyanide composite IBCs can only be transported inside a sealed 20-foot general-purpose shipping container. The sodium cyanide must stay within the shipping container throughout all stages of its distribution and can only be unpacked at the mine site.

Additionally, solid sodium cyanide can be transported in specially designed and constructed bulk sparge isotank containers. These containers can hold 20-24 tonnes of bulk solid cyanide. These isotanks are designed, built, and approved to international standards in line with the IMDG Code, making them suitable for transport by road, rail, and sea (Orica, 2022).

As per Orica's Emergency Response Guide for Sodium Cyanide, sodium cyanide should be stored in a dry, cool, and well-ventilated area, secured and under surveillance. Access to the storage area and the product should be limited to authorised personnel who have been trained in cyanide hazards.

Bulk sparge isotainers and shipping containers containing composite IBCs are placarded with and emergency information panel (EIP) detailing the proper shipping name, dangerous goods class number, UN number, HAZCHEM Code and emergency contact information. Containers are placarded with the environmentally hazardous substance markings (United Nations, 2021). Product labels are provided on the side of the IBC that allows forklift access via the pallet base. IBCs are placed into shipping containers so that the label is facing outwards.

Orica's Sodium Cyanide Transport Management Plan (Orica, 2024) stipulates that agents, distributors, and transport companies are obligated to ensure compliance with all legal requirements related to the transport and storage of sodium cyanide. They are also tasked with notifying Orica of any violations or breaches of these legal requirements.

Maersk adheres to the IMDG Code and recognises that, unless there are specific exemptions within the IMDG Code (Chapter 3.4.2) such as limited quantities, all packages used for dangerous goods must successfully meet the UN package test standards as outlined in part 6 of the IMDG code, which pertains to the construction and testing of packages. Packages that have met these standards are typically referred to as 'UN tested' or 'UN approved' packages (Maersk, 2022). Maersk advise to only load packages that are in sound conditions without damage and leak into a cargo transport unit (CTU) to prevent accidental releases (Maersk, 2022).

Transport Practice 3.1: Prepare detailed emergency response plans for potential cyanide releases

Orica has developed the Emergency Response Guide for Sodium Cyanide (Orica, 2022). This guide stipulates that the first responders should immediately get in touch with trained personnel, such as local site management or emergency services, to establish a basic command structure for managing the situation and providing the necessary emergency response. This includes alerting others in the immediate vicinity of the spill, barricading the area if necessary to prevent exposure, and documenting key information about the scene (e.g.,, location, what happened, who is involved).

After these initial steps, first responders will need to apply their knowledge specific to sodium cyanide to effectively manage casualties, provide appropriate medical treatment, and carry out safe and proper product recovery, site remediation, and decontamination activities.

According to Orica's Transport Management Plan (Orica, 2024), the emergency response plan should cover the entire delivery route. While Orica's responsibilities are limited to the aspects of supply for which it is contractually accountable, agents, distributors, and transport companies must have an appropriate emergency response plan to handle any sodium cyanide incidents within their contractual responsibilities.

The EmS Guide provides guidance on Emergency Response Procedures for Ships Carrying Dangerous Goods, including the Emergency Schedules (EmS), to be followed in case of incidents involving dangerous substances, materials or articles, or harmful substances (marine pollutants). This is regulated under the International Maritime Dangerous Goods Code (IMDG Code) which Maersk subscribes to (IMO, 2024).

Conclusion

Based on the evidence reviewed, this due diligence did not find significant issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work. Instead, it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

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A8 Mediterranean Shipping Company (MSC)

15 March 2024

20360521-Carrier-007. RevA

Author: Megan Wood

Approved: Rudi Seebach

Carrier due diligence executive summary

WSP conducted a due diligence of Mediterranean Shipping Company (MSC) during March 2024 on behalf of Orica Australia Pty Ltd (Orica).

The assessment was reviewed by Rudi Seebach who meets the ICMI requirements for a Transport Technical Specialist.

The following items, as detailed in the ICMI's Auditor Guidance for Use of Cyanide Transportation Verification Protocol (ICMI, 2021), were addressed within the due diligence:

- Transport Practice 1.1 (Questions 1-4 and 6)
- Transport Practice 1.5 (Question 1, Items g-i)
- Transport Practice 1.6
- Transport Practice 2.1
- Transport Practice 3.1.

The ICMI's Auditor Guidance for Use of Cyanide Transportation Verification Protocol (ICMI, 2021) was used to conduct the due diligence assessment. It was not possible during this due diligence to physically inspect operations, as such the review was based on information obtained from previous due diligence reviews, ICMI audit reports and publicly available online information. Based on the evidence reviewed, this due diligence did not find issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance of for future work; rather it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

Overview of MSC

Headquartered in Geneva, Switzerland, MSC is engaged in worldwide container transport, operating 300 global routes to 520 ports (MSC, 2024c). MSC is a privately owned global organisation with a network of over 650 offices in 155 countries, employing over 200 000 individuals (MSC, 2024a) and operating approximately 800 vessels with the capacity to handle the equivalent capacity of 22.5 million Twenty-foot Equivalent Units (TEUs) annually (MSC, 2024b).

In 2023, MSC became the world's largest shipping line, adding over a million TEUs to its capacity (MSC, 2024e). The company's fleet expansion included 14 "megamax" vessels and 26 neo-panamax ships, contributing to a 22% growth in their fleet.

MSC has set up dangerous goods cargo management centres that manage the stowage of hazardous cargo worldwide through their Acceptation Policy headquartered in Antwerp (MSC, 2003).

ICMC transport verification protocol assessment

Transport Practice 1.1: Select cyanide transport routes to minimise the potential for accidents and releases

Orica procedure "Selection of Transport Routes Transportation of Sodium Cyanide to Customer Sites or Stock Points" (Orica, 2024a) aims to minimise the risk associated with the transportation of sodium cyanide while maintaining a safe, reliable, efficient, and cost-effective delivery system to customer sites and Orica stock points throughout the world. The procedure applies to the selection of delivery routes for Orica sodium cyanide and states that the "selection of route(s) is to be affected by the overall assessment of the risks associated with the utilisation of such route, taking into particular consideration likelihood of an incident occurring and the consequence of such an incident" (Orica, 2024a). This procedure is applicable to all routes used for the transportation of Orica sodium cyanide as well as to Orica's contracted transportation agencies.

Orica's "Route Conditions" procedure is used to assist the selection of cyanide transport routes when the original route cannot be used to minimise potential for accidents and releases. The procedure's intent is "to ensure that relevant feedback from transportation agencies relating to routes utilised for the movement of sodium cyanide is provided through to Orica for the appropriate assessment and follow on actions, as appropriate" (Orica, 2024d). Alteration to chosen route conditions are to be advised by the transportation agency through to the regional Orica Head of Supply, or their delegate, where the change is being implemented. Possible alternatives are then assessed by Orica Head of Supply or their delegate and passed through to the Health, Safety and Environment (HS&E) Officer for update of the applicable route assessment.

MSC Shipping is a carrier service providing international shipping of containers on a fleet of their container vessels. Containers containing solid sodium cyanide are placed and secured on their vessels at the loading port by the stevedoring company and removed at the Port of destination by the stevedoring company at that port (WSP Australia Pty Ltd, 2023).

An export or international route will include the following:

- Orica production, packaging, and despatch
- Road and rail transportation to port
- International shipping to destination port
- Road transportation to customer (mining operation).

In some instances, sodium cyanide shipments are unloaded at terminals en route to its final destination. This is known as trans-shipping and involves a temporary set down within a port facility before loading onto another vessel for continuation of the delivery. It is at the discretion of MSC to determine when and where this occurs. The IMDG Code was given mandatory status under the Safety of Life at Sea (SOLAS) convention in 2004 (IMO, 2024). MSC must conduct itself under this code and this extends to the selection of terminals used for trans-shipping.

Transport Practice 1.5: Follow international standards for transportation of cyanide by sea

Orica's manufacturing facility and transfer stations are ICMC certified (Orica, 2024c). Orica's sodium cyanide is packaged and transported in accordance with the Australian Dangerous Goods (ADG) Code and the IMDG Code (Orica, 2014a), thereby meeting the international standards required for the transportation of dangerous goods by sea.

Orica procedure "Carrier Assessment" provides the framework for ensuring that carriers and their contractors are assessed at regular intervals to ensure that, amongst others, storage, safety, security, maintenance, and emergency response standards are being maintained (Orica, 2024b). Carriers are required to provide manifest documentation to the destination port to satisfy local customs regulations and the requirements of the IMDG Code. This documentation contains a list of the cargo types and, in the case of sodium cyanide and any other hazardous cargo the quantity, unique packaging numbers, stowage reference and emergency response procedures.

g) Does the ship carrying the cyanide have a list or manifest identifying the presence and location of the cyanide or a detailed stowage plan including this information, as required under Section 5.4.3.1 of the DG Code?

Orica's manufacturing facility and transfer stations are ICMC certified, sodium cyanide is packaged and transported in accordance with international regulatory standards, such as the United Nations Recommendation on the Transport of Dangerous Goods Model Regulations (United Nations, 2021) and National Codes of Practice such as the Australian Code for the Transport of Dangerous Goods by Road or Rail (NTC, 2022) thereby meeting the requirements of the political jurisdictions through which the loads will pass.

According to Section 5.4 of the ADG Code, Chapter 5.4 of UN22 (United Nations, 2021) outlines the necessary documentation for international, intermodal shipping. As per section 5.4.1.1.1 of this report, it is the responsibility of the consignor, who is offering dangerous goods for transport, to provide the carrier with relevant information about those goods. This information can be supplied via a dangerous goods transport document or, if the carrier agrees, through another method (United Nations, 2021).

In line with IMDG Code, Orica completes a document known as the Multimodal Dangerous Goods Form for the transport of dangerous goods (AMSA, n.d). This form complies with the requirements of SOLAS 74, Chapter VII, Regulation 4 and The International Convention for the Prevention of Pollution from Ships (MARPOL) 73/78, Annex III, Regulation 4 (ICMI, 2021). It includes a container packaging certificate that meets the requirements of Section 5.4.2 of the IMDG Code. Along with this form, additional documentation, in line with part 5 of the ADG Code (NTC, 2022), containing a list of the cargo types, and in the case of sodium cyanide and any other hazardous cargo, the quantity, unique packaging numbers, stowage reference and emergency response procedures should be provided to the carrier. The documentation provided, including Dangerous Goods manifest (including stowage plan) and Packaging Certificates for each container ensure that adequate information is available in order to identify the correct stowage and separation of dangerous goods.

Upon arrival at the port, the ship's master is provided with a copy of this form. This information then determines the placement and segregation of the container on the vessel and handling through trans-shipment ports, if applicable.

MSC transports sodium cyanide by sea to various destination ports. All packaging and transportation is in accordance with the IMDG Code.

h) Does the ship carrying the cyanide have cyanide emergency response information, as required under Section 5.4.3.2 of the DG Code?

As per Section 5.4 of the ADG Code, Chapter 5.4 of UN22 (United Nations, 2021) details the required documentation for international, multimodal transport. Section 5.4.3 stipulates that emergency response information must be readily available at all times. This information should be kept separate from the dangerous goods packages and be immediately accessible in case of an accident or incident. This includes the provision of a separate document like a safety data sheet and a separate document for 'Emergency Procedures for Ships Carrying Dangerous Goods', which should be used in conjunction with the transport document (United Nations, 2021).

Orica have developed the Cyanide Emergency Response Guide to comply fully with obligations as a supplier of cyanide (Orica, 2022) and provides the 'External Chemical Emergency Form' template for Carriers.

Emergency response procedures for ships carrying dangerous goods, including the emergency schedules to be followed in case of incidents involving dangerous substances, materials or articles, or harmful substances (marine pollutants), is regulated under the IMDG Code. In accordance with the Code, all ships, and the companies responsible for their operation, are required to maintain a Safety Management System (SMS). Within the SMS, procedures for responding to potential shipboard emergencies are required (IMO, 2024).

In line with the Code, manifests are to be provided to the vessel Master and contain emergency response information. The *Multimodal Dangerous Goods Form* also includes emergency response information.

i) Does the ship comply with the stowage and separation requirements of Part 7 of the DG Code?

According to Section 7.1.1.3 of the United Nations (UN) guidelines (United Nations, 2021), a carrier is prohibited from accepting dangerous goods for transport unless the supplier, in this case Orica, provides a copy of the dangerous goods transport documentation, including in electronic form, along with any other necessary documents. The segregation requirements for dangerous goods are detailed in Section 7.1.2.

The carrier can establish the segregation requirements as outlined in the UN guidelines based on the Multimodal Dangerous Goods Form (AMSA, n.d) provided by Orica, along with the additional required labelling and documentation.

In Orica's Emergency Response Guide (Orica, 2022), the conditions for storing cyanide are specified in Section 2.3 'Methods of Transport'. It is also stated that these conditions should comply with the Australian Standard AS/NZS 4452:1997, which is related to the Storage and Handling of Toxic Substances.

MSC adheres to the stowage and separation requirements of Chapter 7 (United Nations, 2021) in the following ways:

- The Multimodal Dangerous Goods Form, completed by both Orica and provided to MSC, is the document referenced in Chapter 5.4 of the IMDG Code and complies with the requirements of SOLAS 74, Chapter VII, Regulation 4, The International Convention for the Prevention of Pollution from Ships (MARPOL) 73/78, Annex III, Regulation 4, and the provisions of the Code.
- A copy of the Form is given to MSC for the assignment of container reference numbers and for finalising HAZCHEM bookings. Data from the Form is entered into the MSC tracking and monitoring system, which allows for the determination of container placement and segregation on the vessel and handling through shipment ports.

Transport Practice 1.6: Track cyanide shipments to prevent losses during transport

MSC has Application Programming Interface (API) and electronic Data Interchange (EDI) solutions for integrating shipping data exchange and tracking shipments (MSC, 2024f). MSC's digital solutions comply with industry standards and are developed in collaboration with partners like INTTRA, InforNexus, and CargoSmart. In addition, they offer 24/7 access to data about containers positions, door status, temperature, humidity sand more (MSC, 2024g).

Chain of custody documentation is used by MSC to prevent the loss of cargo during shipment. This documentation includes the vessel manifest and Safety Data Sheets (SDS), which identifies the location and content of each container on the vessel.

MSC Direct Integrations facilitate the digital transfer of shipping data, enhancing business efficiency through API (Application Programming Interface) and EDI (Electronic Data Interchange) solutions (MSC, 2024d).

Transport Practice 2.1: Store cyanide in a manner that minimises the potential for accidental releases

Orica's Emergency Response Guide for Sodium Cyanide provides the storage requirements for sodium cyanide. Solid sodium cyanide is usually stored and transported in Composite Intermediate Bulk Containers (IBCs) that can hold between 800 and 1100 kilograms. The sodium cyanide is packed into a single-use woven polypropylene bulk bag, which is hermetically sealed within a polyethylene bag that lines the interior of the wooden IBC. This entire package (the composite IBC) has been thoroughly tested and approved according to the United Nations Recommendations for the Transport of Dangerous Goods, Model Regulations (Orica, 2022). As per the approval conditions, the sodium cyanide composite IBCs can only be transported inside a sealed 20-foot general-purpose shipping container. The sodium cyanide must stay within the shipping container throughout all stages of its distribution and can only be unpacked at the mine site.

Additionally, solid sodium cyanide can be transported in specially designed and constructed bulk sparge isotank containers. These containers can hold 20-24 tonnes of bulk solid cyanide. These isotanks are designed, built, and approved to international standards in line with the IMDG Code, making them suitable for transport by road, rail, and sea (Orica, 2022).

As per Orica's Emergency Response Guide for Sodium Cyanide, sodium cyanide should be stored in a dry, cool, and well-ventilated area, secured and under surveillance. Access to the storage area and the product should be limited to authorised personnel who have been trained in cyanide hazards.

Bulk sparge isotainers and shipping containers containing composite IBCs are placarded with and emergency information panel (EIP) detailing the proper shipping name, dangerous goods class number, UN number, HAZCHEM Code and emergency contact information. Containers are placarded with the environmentally hazardous substance markings (United Nations, 2021). Product labels are provided on the side of the IBC that allows forklift access via the pallet base. IBCs are placed into shipping containers so that the label is facing outwards.

Orica's Sodium Cyanide Transport Management Plan (Orica, 2024) stipulates that agents, distributors, and transport companies are obligated to ensure compliance with all legal requirements related to the transport and storage of sodium cyanide. They are also tasked with notifying Orica of any violations or breaches of these legal requirements.

MSC operations personnel provide the vessel's Master with copies of the Emergency Information, Dangerous Goods manifest (including stowage plan), Packaging Certificates and the *Multimodal Dangerous Goods Form* for each hazardous cargo transport units loaded onto the ship at the port.

Transport Practice 3.1: Prepare detailed emergency response plans for potential cyanide releases

Orica has developed the Emergency Response Guide for Sodium Cyanide (Orica, 2022). This guide stipulates that the first responders should immediately get in touch with trained personnel, such as local site management or emergency services, to establish a basic command structure for managing the situation and providing the necessary emergency response. This includes alerting others in the immediate vicinity of the spill, barricading the area if necessary to prevent exposure, and documenting key information about the scene (e.g.,, location, what happened, who is involved).

After these initial steps, first responders will need to apply their knowledge specific to sodium cyanide to effectively manage casualties, provide appropriate medical treatment, and carry out safe and proper product recovery, site remediation, and decontamination activities.

According to Orica's Transport Management Plan (Orica, 2024), the emergency response plan should cover the entire delivery route. Orica's responsibilities are limited to the aspects of supply for which it is contractually accountable. Agents, distributors, and transport companies must have an appropriate emergency response plan to handle any sodium cyanide incidents within their contractual responsibilities.

The Emergency Schedules (EmS) Guide provides guidance on Emergency Response Procedures for Ships Carrying Dangerous Goods, including the Emergency Schedules (EmS), to be followed in case of incidents involving dangerous substances, materials or articles, or harmful substances (marine pollutants). This is regulated under the International Maritime Dangerous Goods Code (IMDG Code) which MSC subscribes to (IMO, 2024).

MSC operations personnel provide the vessel's Master with copies of the Emergency Information, Dangerous Goods manifest (including stowage plan), Packaging Certificates and the Multimodal Dangerous Goods Form for each hazardous cargo transport units loaded onto the ship at the port.

Conclusion

Based on the evidence reviewed, this due diligence did not find significant issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work. Instead, it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

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A9 Navierra Ultranav Transmares

12 March 2024

20360521-Carrier- 008. RevA

Author: Lilly Kelly

Approved: Rudi Seebach

Carrier due diligence executive summary

WSP conducted a due diligence of Navierra Ultranav Transmares (Transmares) during March 2024 on behalf of Orica Australia Pty Ltd (Orica).

The assessment was reviewed by Rudi Seebach who meets the ICMI requirements for a Transport Technical Specialist.

The following items, as detailed in the ICMI's Auditor Guidance for Use of Cyanide Transportation Verification Protocol (ICMI, 2021), were addressed within the due diligence:

- Transport Practice 1.1 (Questions 1-4 and 6)
- Transport Practice 1.5 (Question 1, Items g-i)
- Transport Practice 1.6
- Transport Practice 2.1
- Transport Practice 3.1.

The ICMI's Auditor Guidance for Use of Cyanide Transportation Verification Protocol (ICMI, 2021) was used to conduct the due diligence assessment. It was not possible during this due diligence to physically inspect operations, as such the review was based on information obtained from previous due diligence reviews, ICMI audit reports and publicly available online information. Based on the evidence reviewed, this due diligence did not find issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance of for future work; rather it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

Overview of Transmares

Transmares was founded in 1969, is located in Chile, and is now a shipping division of ULTRANAV CHILE. They are dedicated to marine traffic in containers with direct cabotage clients and also indirect clients for international cargoes through feedering services to transoceanic container lines (Transmares, N.D.). The maritime service offered to domestic cargoes is comprehensive as it may include the whole transportation chain if required. Transmares ships cargo to the southernmost destinations of Chile through their South Feeder Service. The service is essential in connecting cargoes that arrive from abroad at ports located in the central or northern regions of the country to southern ports. Export cargoes are also moved from southern ports to central area terminals so that they can be transhipped to international container vessels.

Transmares has containers of different types including dry containers of 20', 40', 45', refers containers, flat racks, and tanktrainers. Trucking partners perform local inland transportation between cargo origins and destinations and their corresponding loading and discharge points (Transmares, N.D.).

ICMC transport verification protocol assessment

Transport Practice 1.1: Select cyanide transport routes to minimise the potential for accidents and releases

Orica procedure "Selection of Transport Routes Transportation of Sodium Cyanide to Customer Sites or Stock Points" (Orica, 2024a) aims to minimise the risk associated with the transportation of sodium cyanide while maintaining a safe, reliable, efficient, and cost-effective delivery system to customer sites and Orica stock points throughout the world. The procedure applies to the selection of delivery routes for Orica sodium cyanide and states that the "selection of route(s) is to be affected by the overall assessment of the risks associated with the utilisation of such route, taking into particular consideration likelihood of an incident occurring and the consequence of such an incident" (Orica, 2024a). This procedure is applicable to all routes used for the transportation of Orica sodium cyanide as well as to Orica's contracted transportation agencies.

Orica's "Route Conditions" procedure is used to assist the selection of cyanide transport routes when the original route cannot be used to minimise potential for accidents and releases. The procedure's intent is "to ensure that relevant feedback from transportation agencies relating to routes utilised for the movement of sodium cyanide is provided through to Orica for the appropriate assessment and follow on actions, as appropriate" (Orica, 2024d). Alteration to chosen route conditions are to be advised by the transportation agency through to the regional Orica Head of Supply, or their delegate, where the change is being implemented. Possible alternatives are then assessed by Orica Head of Supply or their delegate and passed through to the Health, Safety and Environment (HS&E) Officer for update of the applicable route assessment.

An export or international route will include the following:

- Orica production, packaging, and despatch
- Road and rail transportation to port
- International shipping to destination port
- Road transportation to customer (mining operation).

In some instances, sodium cyanide shipments are unloaded at terminals en route to its final destination. This is known as trans-shipping and involves a temporary set down within a port facility before loading onto another vessel for continuation of the delivery. It is at the discretion of Transmares to determine when and where this occurs.

The IMDG Code was given mandatory status under the Safety of Life at Sea (SOLAS) convention in 2004 (IMO, 2024). Transmares must conduct itself under this code and this extends to the selection of terminals used for trans shipping. Transmares specialises in shipping along the Chilean coast. Their South Feeder Service ships from San Antonio to other ports along the south coast and repeat the same routes (Transmares, N.D.(b)). The North Feeder service transports cargo from San Antonio to Puerto Angamos and back (Transmares, N.D. (c)). The longest transit time at sea is ten days.

Transport Practice 1.5: Follow international standards for transportation of cyanide by sea

Orica's manufacturing facility and transfer stations are ICMC certified (Orica, 2024c). Orica's sodium cyanide is packaged and transported in accordance with the Australian ADG Code and the IMDG Code (Orica, 2014a), thereby meeting the international standards required for the transportation of dangerous goods by sea.

Orica procedure “Carrier Assessment” provides the framework for ensuring that carriers and their contractors are assessed at regular intervals to ensure that, amongst others, storage, safety, security, maintenance, and emergency response standards are being maintained (Orica, 2024b).

Carriers are required to provide manifest documentation to the destination port to satisfy local customs regulations and the requirements of the International Maritime Dangerous Goods (IMDG) Code (WSP Australia Pty Ltd, 2023). This documentation contains a list of the cargo types and, in the case of sodium cyanide and any other hazardous cargo the quantity, unique packaging numbers, stowage reference and emergency response procedures. As all carriers must meet the requirements of the IMDG code Transmares must follow the standards set out when transporting cyanide.

g) Does the ship carrying the cyanide have a list or manifest identifying the presence and location of the cyanide or a detailed stowage plan including this information, as required under Section 5.4.3.1 of the DG Code?

Orica’s manufacturing facility and transfer stations are ICMC certified, sodium cyanide is packaged and transported in accordance with international regulatory standards, such as the United Nations Recommendation on the Transport of Dangerous Goods Model Regulations (United Nations, 2021) and National Codes of Practice such as the Australian Code for the Transport of Dangerous Goods by Road or Rail (NTC, 2022) thereby meeting the requirements of the political jurisdictions through which the loads will pass.

According to Section 5.4 of the ADG Code, Chapter 5.4 of UN22 (United Nations, 2021) outlines the necessary documentation for international, intermodal shipping. As per section 5.4.1.1.1 of this report, it is the responsibility of the consignor, who is offering dangerous goods for transport, to provide the carrier with relevant information about those goods. This information can be supplied via a dangerous goods transport document or, if the carrier agrees, through another method (United Nations, 2021).

In line with IMDG Code, Orica complete a document known as the Multimodal Dangerous Goods Form for the transport of dangerous goods (AMSA, n.d). This form complies with the requirements of SOLAS 74, Chapter VII, Regulation 4 and The International Convention for the Prevention of Pollution from Ships (MARPOL) 73/78, Annex III, Regulation 4 (ICMI, 2021). It includes a container packaging certificate that meets the requirements of Section 5.4.2 of the IMDG Code. Along with this form, additional documentation, in line with part 5 of the Dangerous Goods (ADG) Code (NTC, 2022), containing a list of the cargo types, and in the case of sodium cyanide and any other hazardous cargo, the quantity, unique packaging numbers, stowage reference and emergency response procedures should be provided to the carrier. The documentation provided, including Dangerous Goods manifest (including stowage plan) and Packaging Certificates for each container ensure that adequate information is available to identify the correct stowage and separation of dangerous goods.

Upon arrival at the port, the ship’s master is provided with a copy of this form. This information then determines the placement and segregation of the container on the vessel and handling through trans-shipment ports, if applicable.

h) Does the ship carrying the cyanide have cyanide emergency response information, as required under Section 5.4.3.2 of the DG Code?

As per Section 5.4 of the ADG Code, Chapter 5.4 of UN22 (United Nations, 2021) details the required documentation for international, multimodal transport. Section 5.4.3 stipulates that emergency response information must be readily available at all times. This information should be kept separate from the dangerous goods packages and be immediately accessible in case of an accident or incident. This includes the provision of a separate document like a safety data sheet and a separate document for ‘Emergency Procedures for Ships Carrying Dangerous Goods’, which should be used in conjunction with the transport document (United Nations, 2021).

Orica have developed the Cyanide Emergency Response Guide to comply fully with obligations as a supplier of cyanide (Orica, 2022) and provides the ‘External Chemical Emergency Form’ template for Carriers.

Emergency response procedures for ships carrying dangerous goods, including the emergency schedules to be followed in case of incidents involving dangerous substances, materials or articles, or harmful substances (marine pollutants), is regulated under the IMDG Code. In accordance with the Code, all ships, and the companies responsible for their operation, are required to maintain a Safety Management System (SMS). Within the SMS, procedures for responding to potential shipboard emergencies are required (IMO, 2024).

In line with the Code, manifests are to be provided to the vessel Master and contain emergency response information. The *Multimodal Dangerous Goods Form* also includes emergency response information.

i) Does the ship comply with the stowage and separation requirements of Part 7 of the DG Code?

According to Section 7.1.1.3 of the United Nations (UN) guidelines (United Nations, 2021), a carrier is prohibited from accepting dangerous goods for transport unless the supplier, in this case Orica, provides a copy of the dangerous goods transport documentation, including in electronic form, along with any other necessary documents. The segregation requirements for dangerous goods are detailed in Section 7.1.2.

The carrier can establish the segregation requirements as outlined in the UN guidelines based on the Multimodal Dangerous Goods Form (AMSA, n.d) provided by Orica, along with the additional required labelling and documentation.

In Orica's Emergency Response Guide (Orica, 2022), the conditions for storing cyanide are specified in Section 2.3 'Methods of Transport'. It is also stated that these conditions should comply with the Australian Standard AS/NZS 4452:1997, which is related to the Storage and Handling of Toxic Substances.

Transport Practice 1.6: Track cyanide shipments to prevent losses during transport

Transmares has an online tracking service available online on their website. The customer must enter their booking code and then they will receive the most recent update of where the cargo is (Transmares, N.D. (c)). Transmares can provide the whole transportation chain if required, providing a door to door service, and helping reduce the number of parties the cargo is passed through which can help prevent losses.

Transport Practice 2.1: Store cyanide in a manner that minimises the potential for accidental releases

Orica's Emergency Response Guide for Sodium Cyanide provides the storage requirements for Cyanide. Solid sodium cyanide is usually stored and transported in Composite Intermediate Bulk Containers (IBCs) that can hold between 800 and 1100 kilograms. The sodium cyanide is packed into a single-use woven polypropylene bulk bag, which is hermetically sealed within a polyethylene bag that lines the interior of the wooden IBC. This entire package (the composite IBC) has been thoroughly tested and approved according to the United Nations Recommendations for the Transport of Dangerous Goods, Model Regulations (Orica, 2022). As per the approval conditions, the sodium cyanide composite IBCs can only be transported inside a sealed 20-foot general-purpose shipping container. The sodium cyanide must stay within the shipping container throughout all stages of its distribution and can only be unpacked at the mine site.

Additionally, solid sodium cyanide can be transported in specially designed and constructed bulk sparge isotank containers. These containers can hold 20-24 tonnes of bulk solid cyanide. These isotanks are designed, built, and approved to international standards in line with the IMDG Code, making them suitable for transport by road, rail, and sea (Orica, 2022).

As per Orica's Emergency Response Guide for Sodium Cyanide, sodium cyanide should be stored in a dry, cool, and well-ventilated area, secured and under surveillance. Access to the storage area and the product should be limited to authorised personnel who have been trained in cyanide hazards.

Bulk sparge isotainers and shipping containers containing composite IBCs are placarded with and emergency information panel (EIP) detailing the proper shipping name, dangerous goods class number, UN number, HAZCHEM Code and emergency contact information. Containers are placarded with the environmentally hazardous substance markings (United Nations, 2021). Product labels are provided on the side of the IBC that allows forklift access via the pallet base. IBCs are placed into shipping containers so that the label is facing outwards.

Orica's Sodium Cyanide Transport Management Plan (Orica, 2024) stipulates that agents, distributors, and transport companies are obligated to ensure compliance with all legal requirements related to the transport and storage of sodium cyanide. They are also tasked with notifying Orica of any violations or breaches of these legal requirements.

All packaging and transportation of Orica's sodium cyanide complies with the ADG and the IMDG Code (Orica, 2014a). The codes are to ensure the safe transport of dangerous goods and thus minimise the potential for accidental release.

Transport Practice 3.1: Prepare detailed emergency response plans for potential cyanide releases

Orica has developed the Emergency Response Guide for Sodium Cyanide (Orica, 2022). This guide stipulates that the first responders should immediately get in touch with trained personnel, such as local site management or emergency services, to establish a basic command structure for managing the situation and providing the necessary emergency response. This includes alerting others in the immediate vicinity of the spill, barricading the area if necessary to prevent exposure, and documenting key information about the scene (e.g.,, location, what happened, who is involved).

After these initial steps, first responders will need to apply their knowledge specific to sodium cyanide to effectively manage casualties, provide appropriate medical treatment, and carry out safe and proper product recovery, site remediation, and decontamination activities.

According to Orica's Transport Management Plan (Orica, 2024), the emergency response plan should cover the entire delivery route. While Orica's responsibilities are limited to the aspects of supply for which it is contractually accountable, agents, distributors, and transport companies must have an appropriate emergency response plan to handle any sodium cyanide incidents within their contractual responsibilities.

The EmS Guide provides guidance on Emergency Response Procedures for Ships Carrying Dangerous Goods, including the Emergency Schedules (EmS), to be followed in case of incidents involving dangerous substances, materials or articles, or harmful substances (marine pollutants). This is regulated under the International Maritime Dangerous Goods Code (IMDG Code) which Transmares subscribes to (IMO, 2024).

Conclusion

Based on the evidence reviewed, this due diligence did not find significant issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work. Instead, it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

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A10 Neptune Pacific Direct Line (NPDL)

12 March 2024

20360521-Carrier-009. RevA

Author: Megan Wood

Approved: Rudi Seebach

Carrier due diligence executive summary

WSP conducted a due diligence of Neptune Pacific Direct Line during March 2024 on behalf of Orica Australia Pty Ltd (Orica).

The assessment was reviewed by Rudi Seebach who meets the ICMI requirements for a Transport Technical Specialist.

The following items, as detailed in the ICMI's Auditor Guidance for Use of Cyanide Transportation Verification Protocol (ICMI, 2021), were addressed within the due diligence:

- Transport Practice 1.1 (Questions 1-4 and 6)
- Transport Practice 1.5 (Question 1, Items g-i)
- Transport Practice 1.6
- Transport Practice 2.1
- Transport Practice 3.1.

The ICMI's Auditor Guidance for Use of Cyanide Transportation Verification Protocol (ICMI, 2021) was used to conduct the due diligence assessment. It was not possible during this due diligence to physically inspect operations, as such the review was based on information obtained from previous due diligence reviews, ICMI audit reports and publicly available online information. Based on the evidence reviewed, this due diligence did not find issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance of for future work; rather it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

Overview of Neptune Pacific Direct Line (NPDL)

Neptune Pacific Direct Line (NPDL), established in 2020, is a South Pacific specialist in end-to-end supply chain solutions. Headquartered in Auckland, New Zealand, NPDL offers liner shipping and a variety of logistical services across 16 countries and 22 ports, including Fiji, Samoa, Tonga, Tahiti, and many others. Formed through the merger of Neptune Pacific Line and Pacific Direct Line, NPDL combines expertise and a dedicated shipping network to connect the South Pacific with the rest of the globe. Their services encompass not only shipping, but also extend to shipping agencies, customs clearance, warehousing, and even waste removal. Notably, NPDL accepts various categories of dangerous goods for transport, though with surcharges and exclusions (NPDL, 2024).

ICMC transport verification protocol assessment

Transport Practice 1.1: Select cyanide transport routes to minimise the potential for accidents and releases

Orica procedure "Selection of Transport Routes Transportation of Sodium Cyanide to Customer Sites or Stock Points" (Orica, 2024a) aims to minimise the risk associated with the transportation of sodium cyanide while maintaining a safe, reliable, efficient, and cost-effective delivery system to customer sites and Orica stock points throughout the world. The procedure applies to the selection of delivery routes for Orica sodium cyanide and states that the "selection of route(s) is to be affected by the overall assessment of the risks associated with the utilisation of such route, taking into particular consideration likelihood of an incident occurring and the consequence of such an incident" (Orica, 2024a). This procedure is applicable to all routes used for the transportation of Orica sodium cyanide as well as to Orica's contracted transportation agencies.

Orica's "Route Conditions" procedure is used to assist the selection of cyanide transport routes when the original route cannot be used to minimise potential for accidents and releases. The procedure's intent is "to ensure that relevant feedback from transportation agencies relating to routes utilised for the movement of sodium cyanide is provided through to Orica for the appropriate assessment and follow on actions, as appropriate" (Orica, 2024d). Alteration to chosen route conditions are to be advised by the transportation agency through to the regional Orica Head of Supply, or their delegate, where the change is being implemented. Possible alternatives are then assessed by Orica Head of Supply or their delegate and passed through to the Health, Safety and Environment (HS&E) Officer for update of the applicable route assessment.

An expoIt or international route will include the following:

- Orica production, packaging, and despatch
- Road and rail transportation to port
- International shipping to destination port
- Road transportation to customer (mining operation).

In some instances, sodium cyanide shipments are unloaded at terminals en route to its final destination. This is known as trans-shipping and involves a temporary set down within a port facility before loading onto another vessel for continuation of the delivery. It is at the discretion of NPDL to determine when and where this occurs.

The International Maritime Dangerous Goods (IMDG) Code was given mandatory status under the Safety of Life at Sea (SOLAS) convention in 2004 (IMO, 2024). NPDL must conduct itself under this code and this extends to the selection of terminals used for trans-shipping.

Transport Practice 1.5: Follow international standards for transportation of cyanide by sea

Orica's manufacturing facility and transfer stations are ICMC certified (Orica, 2024c). Orica's sodium cyanide is packaged and transported in accordance with the Australian Dangerous Goods (ADG) Code and the IMDG Code (Orica, 2014a), thereby meeting the international standards required for the transportation of dangerous goods by sea.

Orica procedure "Carrier Assessment" provides the framework for ensuring that carriers and their contractors are assessed at regular intervals to ensure that, amongst others, storage, safety, security, maintenance, and emergency response standards are being maintained (Orica, 2024b).

Carriers are required to provide manifest documentation to the destination port to satisfy local customs regulations and the requirements of the IMDG Code. This documentation contains a list of the cargo types and, in the case of sodium cyanide and any other hazardous cargo the quantity, unique packaging numbers, stowage reference and emergency response procedures. As all carriers must meet the requirements of the IMDG code NPDL must follow the standards set out when transporting cyanide.

g) Does the ship carrying the cyanide have a list or manifest identifying the presence and location of the cyanide or a detailed stowage plan including this information, as required under Section 5.4.3.1 of the DG Code?

Orica's manufacturing facility and transfer stations are ICMC certified, sodium cyanide is packaged and transported in accordance with international regulatory standards, such as the United Nations Recommendation on the Transport of Dangerous Goods Model Regulations (United Nations, 2021) and National Codes of Practice such as the Australian Code for the Transport of Dangerous Goods by Road or Rail (NTC, 2022) thereby meeting the requirements of the political jurisdictions through which the loads will pass.

According to Section 5.4 of the ADG Code, Chapter 5.4 of UN22 (United Nations, 2021) outlines the necessary documentation for international, intermodal shipping. As per section 5.4.1.1.1 of this report, it is the responsibility of the consignor, who is offering dangerous goods for transport, to provide the carrier with relevant information about those goods. This information can be supplied via a dangerous goods transport document or, if the carrier agrees, through another method (United Nations, 2021).

In line with IMDG Code, Orica complete a document known as the Multimodal Dangerous Goods Form for the transport of dangerous goods (AMSA, n.d). This form complies with the requirements of SOLAS 74, Chapter VII, Regulation 4 and The International Convention for the Prevention of Pollution from Ships (MARPOL) 73/78, Annex III, Regulation 4 (ICMI, 2021). It includes a container packaging certificate that meets the requirements of Section 5.4.2 of the IMDG Code. Along with this form, additional documentation, in line with part 5 of the ADG Code (NTC, 2022), containing a list of the cargo types, and in the case of sodium cyanide and any other hazardous cargo, the quantity, unique packaging numbers, stowage reference and emergency response procedures should be provided to the carrier. The documentation provided, including Dangerous Goods manifest (including stowage plan) and Packaging Certificates for each container ensure that adequate information is available in order to identify the correct stowage and separation of dangerous goods.

Upon arrival at the port, the ship's master is provided with a copy of this form. This information then determines the placement and segregation of the container on the vessel and handling through trans-shipment ports, if applicable.

h) Does the ship carrying the cyanide have cyanide emergency response information, as required under Section 5.4.3.2 of the DG Code?

As per Section 5.4 of the ADG Code, Chapter 5.4 of UN22 (United Nations, 2021) details the required documentation for international, multimodal transport. Section 5.4.3 stipulates that emergency response information must be readily available at all times. This information should be kept separate from the dangerous goods packages and be immediately accessible in case of an accident or incident. This includes the provision of a separate document like a safety data sheet and a separate document for 'Emergency Procedures for Ships Carrying Dangerous Goods', which should be used in conjunction with the transport document (United Nations, 2021).

Orica have developed the Cyanide Emergency Response Guide to comply fully with obligations as a supplier of cyanide (Orica, 2022) and provides the 'External Chemical Emergency Form' template for Carriers.

Emergency response procedures for ships carrying dangerous goods, including the emergency schedules to be followed in case of incidents involving dangerous substances, materials or articles, or harmful substances (marine pollutants), is regulated under the IMDG Code. In accordance with the Code, all ships, and the companies responsible for their operation, are required to maintain a Safety Management System (SMS). Within the SMS, procedures for responding to potential shipboard emergencies are required (IMO, 2024).

In line with the Code, manifests are to be provided to the vessel Master and contain emergency response information. The *Multimodal Dangerous Goods Form* also includes emergency response information.

i) Does the ship comply with the stowage and separation requirements of Part 7 of the DG Code?

According to Section 7.1.1.3 of the United Nations (UN) guidelines (United Nations, 2021), a carrier is prohibited from accepting dangerous goods for transport unless the supplier, in this case Orica, provides a copy of the dangerous goods transport documentation, including in electronic form, along with any other necessary documents. The segregation requirements for dangerous goods are detailed in Section 7.1.2.

The carrier can establish the segregation requirements as outlined in the UN guidelines based on the Multimodal Dangerous Goods Form (AMSA, n.d) provided by Orica, along with the additional required labelling and documentation.

In Orica's Emergency Response Guide (Orica, 2022), the conditions for storing cyanide are specified in Section 2.3 'Methods of Transport'. It is also stated that these conditions should comply with the Australian Standard AS/NZS 4452:1997, which is related to the Storage and Handling of Toxic Substances.

As per NPDL Bill of Lading (NPDL, n.d), carrier's prior written consent is required for the Carriage of dangerous or hazardous Goods which must be distinctly marked as such on the outside of the Goods and the Container.

Transport Practice 1.6: Track cyanide shipments to prevent losses during transport

Chain of custody documentation is used by shipping companies to prevent the loss of cargo during shipment. This documentation includes the vessel manifest which identifies the location and content of each container on the vessel along with packing certificates and multimodal dangerous goods forms. NPDL offers a tracking function for New Zealand, Fiji and Australian shipments (NPDL, 2024).

Transport Practice 2.1: Store cyanide in a manner that minimises the potential for accidental releases

Orica's Emergency Response Guide for Sodium Cyanide provides the storage requirements for Cyanide. Solid sodium cyanide is usually stored and transported in Composite Intermediate Bulk Containers (IBCs) that can hold between 800 and 1100 kilograms. The sodium cyanide is packed into a single-use woven polypropylene bulk bag, which is hermetically sealed within a polyethylene bag that lines the interior of the wooden IBC. This entire package (the composite IBC) has been thoroughly tested and approved according to the United Nations Recommendations for the Transport of Dangerous Goods, Model Regulations (Orica, 2022). As per the approval conditions, the sodium cyanide composite IBCs can only be transported inside a sealed 20-foot general-purpose shipping container. The sodium cyanide must stay within the shipping container throughout all stages of its distribution and can only be unpacked at the mine site.

Additionally, solid sodium cyanide can be transported in specially designed and constructed bulk sparge isotank containers. These containers can hold 20-24 tonnes of bulk solid cyanide. These isotanks are designed, built, and approved to international standards in line with the IMDG Code, making them suitable for transport by road, rail, and sea (Orica, 2022).

As per Orica's Emergency Response Guide for Sodium Cyanide, sodium cyanide should be stored in a dry, cool, and well-ventilated area, secured and under surveillance. Access to the storage area and the product should be limited to authorised personnel who have been trained in cyanide hazards.

Bulk sparge isotainers and shipping containers containing composite IBCs are placarded with and emergency information panel (EIP) detailing the proper shipping name, dangerous goods class number, UN number, HAZCHEM Code and emergency contact information. Containers are placarded with the environmentally hazardous substance markings (United Nations, 2021). Product labels are provided on the side of the IBC that allows forklift access via the pallet base. IBCs are placed into shipping containers so that the label is facing outwards.

Orica's Sodium Cyanide Transport Management Plan (Orica, 2024) stipulates that agents, distributors, and transport companies are obligated to ensure compliance with all legal requirements related to the transport and storage of sodium cyanide. They are also tasked with notifying Orica of any violations or breaches of these legal requirements.

All packaging and transportation of Orica's sodium cyanide complies with the ADG and the IMDG Code (Orica, 2014a). The codes are to ensure the safe transport of dangerous goods and thus minimise the potential for accidental release.

As per NPDL Bill of Lading (NPDL, n.d), the merchant warrants that the stowage and seals of the Containers are safe and proper and suitable for handling and carriage and indemnifies Carrier for any injury, loss or damage caused by breach of this warranty.

Transport Practice 3.1: Prepare detailed emergency response plans for potential cyanide releases

Orica has developed the Emergency Response Guide for Sodium Cyanide (Orica, 2022). This guide stipulates that the first responders should immediately get in touch with trained personnel, such as local site management or emergency services, to establish a basic command structure for managing the situation and providing the necessary emergency response. This includes alerting others in the immediate vicinity of the spill, barricading the area if necessary to prevent exposure, and documenting key information about the scene (e.g.,, location, what happened, who is involved).

After these initial steps, first responders will need to apply their knowledge specific to sodium cyanide to effectively manage casualties, provide appropriate medical treatment, and carry out safe and proper product recovery, site remediation, and decontamination activities.

According to Orica's Transport Management Plan (Orica, 2024), the emergency response plan should cover the entire delivery route. While Orica's responsibilities are limited to the aspects of supply for which it is contractually accountable, agents, distributors, and transport companies must have an appropriate emergency response plan to handle any sodium cyanide incidents within their contractual responsibilities.

The EmS Guide provides guidance on Emergency Response Procedures for Ships Carrying Dangerous Goods, including the Emergency Schedules (EmS), to be followed in case of incidents involving dangerous substances, materials or articles, or harmful substances (marine pollutants). This is regulated under the International Maritime Dangerous Goods Code (IMDG Code) which Transmares subscribes to (IMO, 2024).

Conclusion

Based on the evidence reviewed, this due diligence did not find significant issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work. Instead, it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

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A11 Ocean Network Express

22 March 2024

20360521-Carrier-010. RevA

Author: Lilly Kelly

Approved: Rudi Seebach

Carrier Due Diligence Executive Summary

WSP conducted a due diligence of Ocean Network Express (ONE) during March 2024 on behalf of Orica Australia Pty Ltd (Orica).

The assessment was reviewed by Rudi Seebach who meets the ICMI requirements for a Transport Technical Specialist.

The following items, as detailed in the ICMI's Auditor Guidance for Use of Cyanide Transportation Verification Protocol (ICMI, 2021), were addressed within the due diligence:

- Transport Practice 1.1 (Questions 1-4 and 6)
- Transport Practice 1.5 (Question 1, Items g-i)
- Transport Practice 1.6
- Transport Practice 2.1
- Transport Practice 3.1.

The ICMI's Auditor Guidance for Use of Cyanide Transportation Verification Protocol (ICMI, 2021) was used to conduct the due diligence assessment. It was not possible during this due diligence to physically inspect operations, as such the review was based on information obtained from previous due diligence reviews, ICMI audit reports and publicly available online information. Based on the evidence reviewed, this due diligence did not find issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance of for future work; rather it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

Overview of Ocean Network Express

ONE was established on 7 July 2017 by the merging of three international shipping companies, these were K-Line Kawasaki Australia Pty Ltd (K-Line), Mitsui O.S.K Lines (MOL) and Nippon Yusen Kaisha (NYK Line). ONE's regional headquarters have been established in Hong Kong, Singapore, United Kingdom, United States of America and Brazil and services commenced in April 2018 (ONE, 2024).

As a result of the integration, ONE's fleet size has a twenty-foot equivalent units (TEU) capacity of 1,800,000 (ONE, 2024), making ONE the seventh largest container carrier in the world. ONE has over 244 port calls around he world and does approximately 165 service loops weekly (ONE, 2023).

ICMC transport verification protocol assessment

Transport Practice 1.1: Select cyanide transport routes to minimise the potential for accidents and releases

Orica procedure "Selection of Transport Routes Transportation of Sodium Cyanide to Customer Sites or Stock Points" (Orica, 2024a) aims to minimise the risk associated with the transportation of sodium cyanide while maintaining a safe, reliable, efficient, and cost-effective delivery system to customer sites and Orica stock points throughout the world. The procedure applies to the selection of delivery routes for Orica sodium cyanide and states that the "selection of route(s) is to be affected by the overall assessment of the risks associated with the utilisation of such route, taking into particular consideration likelihood of an incident occurring and the consequence of such an incident" (Orica, 2024a). This procedure is applicable to all routes used for the transportation of Orica sodium cyanide as well as to Orica's contracted transportation agencies.

Orica's "Route Conditions" procedure is used to assist the selection of cyanide transport routes when the original route cannot be used to minimise potential for accidents and releases. The procedure's intent is "to ensure that relevant feedback from transportation agencies relating to routes utilised for the movement of sodium cyanide is provided through to Orica for the appropriate assessment and follow on actions, as appropriate" (Orica, 2024d). Alteration to chosen route conditions are to be advised by the transportation agency through to the regional Orica Head of Supply, or their delegate, where the change is being implemented. Possible alternatives are then assessed by Orica Head of Supply or their delegate and passed through to the Health, Safety and Environment (HS&E) Officer for update of the applicable route assessment.

An export or international route will include the following:

- Orica production, packaging, and despatch
- Road and rail transportation to port
- International shipping to destination port
- Road transportation to customer (mining operation).

In some instances, sodium cyanide shipments are unloaded at terminals en route to its destination. This is known as trans-shipping and involves a temporary set down within a port facility before loading onto another vessel for continuation of the delivery. It is at the discretion of ONE to determine when and where this occurs.

The IMDG Code was given mandatory status under the Safety of Life at Sea (SOLAS) convention in 2004 (IMO, 2024). ONE must conduct itself under this code and this extends to the selection of terminals used for trans-shipping. One offers carrier services across the globe with over 165 service loops completed weekly. ONE has indicated that the terminals and ports indicated on their website are not fixed and are subject to change, allowing for the selection of different routes if necessary (ONE, N.D.).

Transport Practice 1.5: Follow international standards for transportation of cyanide by sea

Orica's manufacturing facility and transfer stations are ICMC certified (Orica, 2024c). Orica's sodium cyanide is packaged and transported in accordance with the Australian Dangerous Goods (ADG) Code and the IMDG Code (Orica, 2014a), thereby meeting the international standards required for the transportation of dangerous goods by sea.

Orica procedure “Carrier Assessment” provides the framework for ensuring that carriers and their contractors are assessed at regular intervals to ensure that, amongst others, storage, safety, security, maintenance, and emergency response standards are being maintained (Orica, 2024b).

Carriers are required to provide manifest documentation to the destination port to satisfy local customs regulations and the requirements of the IMDG Code. This documentation contains a list of the cargo types and, in the case of sodium cyanide and any other hazardous cargo the quantity, unique packaging numbers, stowage reference and emergency response procedures.

ONE requires compliance with the international regulations of the IMDG Code. To operate in compliance with the code, ONE requires the shipper to be responsible for following the regulations of luggage, packaging, and labels, while the carrier is responsible for the loading method (ONE, 2024b).

g) Does the ship carrying the cyanide have a list or manifest identifying the presence and location of the cyanide or a detailed stowage plan including this information, as required under Section 5.4.3.1 of the DG Code?

Orica’s manufacturing facility and transfer stations are ICMC certified, sodium cyanide is packaged and transported in accordance with international regulatory standards, such as the United Nations Recommendation on the Transport of Dangerous Goods Model Regulations (United Nations, 2021) and National Codes of Practice such as the Australian Code for the Transport of Dangerous Goods by Road or Rail (NTC, 2022) thereby meeting the requirements of the political jurisdictions through which the loads will pass.

According to Section 5.4 of the ADG Code, Chapter 5.4 of UN22 (United Nations, 2021) outlines the necessary documentation for international, intermodal shipping. As per section 5.4.1.1.1 of this report, it is the responsibility of the consignor, who is offering dangerous goods for transport, to provide the carrier with relevant information about those goods. This information can be supplied via a dangerous goods transport document or, if the carrier agrees, through another method (United Nations, 2021).

In line with IMDG Code, Orica complete a document known as the Multimodal Dangerous Goods Form for the transport of dangerous goods (AMSA, n.d). This form complies with the requirements of SOLAS 74, Chapter VII, Regulation 4 and The International Convention for the Prevention of Pollution from Ships (MARPOL) 73/78, Annex III, Regulation 4 (ICMI, 2021). It includes a container packaging certificate that meets the requirements of Section 5.4.2 of the IMDG Code. Along with this form, additional documentation, in line with part 5 of the ADG Code (NTC, 2022), containing a list of the cargo types, and in the case of sodium cyanide and any other hazardous cargo, the quantity, unique packaging numbers, stowage reference and emergency response procedures should be provided to the carrier. The documentation provided, including Dangerous Goods manifest (including stowage plan) and Packaging Certificates for each container ensure that adequate information is available in order to identify the correct stowage and separation of dangerous goods.

Upon arrival at the port, the ship’s master is provided with a copy of this form. This information then determines the placement and segregation of the container on the vessel and handling through trans-shipment ports, if applicable.

ONE transports sodium cyanide by sea to various destination ports. All packaging and transportation are in accordance with the IMDG Code. In ONE’s “Safe Transport of Container by Sea” they stipulate that the customer must observe all rules concerning dangerous cargo and use appropriate labels and placards to identify packing and freight containers (ONE, 2020). They must include all necessary documentation and record the seal number and the container number on all shipping documents (ONE, 2020).

Does the ship carrying the cyanide have cyanide emergency response information, as required under Section 5.4.3.2 of the DG Code?

As per Section 5.4 of the ADG Code, Chapter 5.4 of UN22 (United Nations, 2021) details the required documentation for international, multimodal transport. Section 5.4.3 stipulates that emergency response information must be readily available at all times. This information should be kept separate from the dangerous goods packages and be immediately accessible in case of an accident or incident. This includes the provision of a separate document like a safety data sheet and a separate document for 'Emergency Procedures for Ships Carrying Dangerous Goods', which should be used in conjunction with the transport document (United Nations, 2021).

Orica have developed the Cyanide Emergency Response Guide to comply fully with obligations as a supplier of cyanide (Orica, 2022) and provides the 'External Chemical Emergency Form' template for Carriers.

Emergency response procedures for ships carrying dangerous goods, including the emergency schedules to be followed in case of incidents involving dangerous substances, materials or articles, or harmful substances (marine pollutants), is regulated under the IMDG Code. In accordance with the Code, all ships, and the companies responsible for their operation, are required to maintain a Safety Management System (SMS). Within the SMS, procedures for responding to potential shipboard emergencies are required (IMO, 2024).

In line with the Code, manifests are to be provided to the vessel Master and contain emergency response information. The *Multimodal Dangerous Goods Form* also includes emergency response information.

Does the ship comply with the stowage and separation requirements of Part 7 of the DG Code?

According to Section 7.1.1.3 of the United Nations (UN) guidelines (United Nations, 2021), a carrier is prohibited from accepting dangerous goods for transport unless the supplier, in this case Orica, provides a copy of the dangerous goods transport documentation, including in electronic form, along with any other necessary documents. The segregation requirements for dangerous goods are detailed in Section 7.1.2.

The carrier can establish the segregation requirements as outlined in the UN guidelines based on the Multimodal Dangerous Goods Form (AMSA, n.d) provided by Orica, along with the additional required labelling and documentation.

In Orica's Emergency Response Guide (Orica, 2022), the conditions for storing cyanide are specified in Section 2.3 'Methods of Transport'. It is also stated that these conditions should comply with the Australian Standard AS/NZS 4452:1997, which is related to the Storage and Handling of Toxic Substances.

ONE complies with the stowage and separation requirements of the IMDG Code. The ONE website states the company's commitment to complying with the international regulations governing the safe transport of dangerous goods by sea. Additionally, in Japan (parent company headquarters), the contents of the Ministry of Land, Infrastructure and Transport Act require that "sea transport and loading of dangerous goods" are in compliance with the international regulations of the IMDG Code (ONE, 2024b).

ONE's operating practices state that the shipper is responsible for following the regulations of luggage, packaging and labels, while the carrier is responsible for loading, which includes how the contents are stowed. ONE also refers to the IMDG Code Amendment (39-18) Book it Right and Pack it Tight Guidance on packaging dangerous goods for carriage by sea with regards to the separation and stowage of dangerous goods on board their vessels (ONE, 2024b).

Transport Practice 1.6: Track cyanide shipments to prevent losses during transport

ONE provides tracking services to customers which are available online and via their mobile app. Accessed through the booking number, the latest status of the shipment can be viewed. The app tailors the Track and Trace function for easy monitoring and management and there are lots of functions available for use such as Shipment Overview, Schedule, Event Notifications and Visibility Services (ONE, 2022)

Transport Practice 2.1: Store cyanide in a manner that minimises the potential for accidental releases

Orica's Emergency Response Guide for Sodium Cyanide provides the storage requirements for Cyanide. Solid sodium cyanide is usually stored and transported in Composite Intermediate Bulk Containers (IBCs) that can hold between 800 and 1100 kilograms. The sodium cyanide is packed into a single-use woven polypropylene bulk bag, which is hermetically sealed within a polyethylene bag that lines the interior of the wooden IBC. This entire package (the composite IBC) has been thoroughly tested and approved according to the United Nations Recommendations for the Transport of Dangerous Goods, Model Regulations (Orica, 2022). As per the approval conditions, the sodium cyanide composite IBCs can only be transported inside a sealed 20-foot general-purpose shipping container. The sodium cyanide must stay within the shipping container throughout all stages of its distribution and can only be unpacked at the mine site.

Additionally, solid sodium cyanide can be transported in specially designed and constructed bulk sparge isotank containers. These containers can hold 20-24 tonnes of bulk solid cyanide. These isotanks are designed, built, and approved to international standards in line with the IMDG Code, making them suitable for transport by road, rail, and sea (Orica, 2022).

As per Orica's Emergency Response Guide for Sodium Cyanide, sodium cyanide should be stored in a dry, cool, and well-ventilated area, secured and under surveillance. Access to the storage area and the product should be limited to authorised personnel who have been trained in cyanide hazards.

Bulk sparge isotainers and shipping containers containing composite IBCs are placarded with and emergency information panel (EIP) detailing the proper shipping name, dangerous goods class number, UN number, HAZCHEM Code and emergency contact information. Containers are placarded with the environmentally hazardous substance markings (United Nations, 2021). Product labels are provided on the side of the IBC that allows forklift access via the pallet base. IBCs are placed into shipping containers so that the label is facing outwards.

Orica's Sodium Cyanide Transport Management Plan (Orica, 2024) stipulates that agents, distributors, and transport companies are obligated to ensure compliance with all legal requirements related to the transport and storage of sodium cyanide. They are also tasked with notifying Orica of any violations or breaches of these legal requirements.

All packaging and transportation of Orica's sodium cyanide complies with the ADG and the IMDG Code (Orica, 2014a). The codes are to ensure the safe transport of dangerous goods and thus minimise the potential for accidental release.

ONE's operating practices state that the shipper is responsible for following the regulations of luggage, packaging and labels which means that they will receive Orica's shipment as stated above. ONE requires that hazardous materials must be properly stowed in their containers (ONE, 2024b). As the carrier they are then responsible for loading the shipment. As ONE follows the IMDG code, they must stow the cyanide shipment in a manner that minimises the potential for accidental releases during transport. ONE refers to the IMDG Code Amendment (39-18) Book it Right and Pack it Tight Guidance on packaging dangerous goods for carriage by sea with regards to the separation and stowage of dangerous goods on board their vessels (ONE, 2024b).

Transport Practice 3.1: Prepare detailed emergency response plans for potential cyanide releases

Orica has developed the Emergency Response Guide for Sodium Cyanide (Orica, 2022). This guide stipulates that the first responders should immediately get in touch with trained personnel, such as local site management or emergency services, to establish a basic command structure for managing the situation and providing the necessary emergency response. This includes alerting others in the immediate vicinity of the spill, barricading the area if necessary to prevent exposure, and documenting key information about the scene (e.g.,, location, what happened, who is involved).

After these initial steps, first responders will need to apply their knowledge specific to sodium cyanide to effectively manage casualties, provide appropriate medical treatment, and carry out safe and proper product recovery, site remediation, and decontamination activities.

According to Orica's Transport Management Plan (Orica, 2024), the emergency response plan should cover the entire delivery route. While Orica's responsibilities are limited to the aspects of supply for which it is contractually accountable, agents, distributors, and transport companies must have an appropriate emergency response plan to handle any sodium cyanide incidents within their contractual responsibilities.

The EmS Guide provides guidance on Emergency Response Procedures for Ships Carrying Dangerous Goods, including the Emergency Schedules (EmS), to be followed in case of incidents involving dangerous substances, materials or articles, or harmful substances (marine pollutants). This is regulated under the International Maritime Dangerous Goods Code (IMDG Code) which ONE subscribes to (IMO, 2024).

Conclusion

Based on the evidence reviewed, this due diligence did not find significant issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work. Instead, it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

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A12 PT Temas Shipping

22 March 2024

20360521-Carrier- 011. RevA

Author: Megan Wood   Approved: Rudi Seebach

Carrier due diligence executive summary

WSP conducted a due diligence of PT Temas Shipping during March 2024 on behalf of Orica Australia Pty Ltd (Orica).

The assessment was reviewed by Rudi Seebach who meets the ICMI requirements for a Transport Technical Specialist. The following items, as detailed in the ICMI's Auditor Guidance for Use of Cyanide Transportation Verification Protocol (ICMI, 2021), were addressed within the due diligence:

- Transport Practice 1.1 (Questions 1-4 and 6)
- Transport Practice 1.5 (Question 1, Items g-i)
- Transport Practice 1.6
- Transport Practice 2.1
- Transport Practice 3.1.

The ICMI's Auditor Guidance for Use of Cyanide Transportation Verification Protocol (ICMI, 2021) was used to conduct the due diligence assessment. It was not possible during this due diligence to physically inspect operations, as such the review was based on information obtained from previous due diligence reviews, ICMI audit reports and publicly available online information. Based on the evidence reviewed, this due diligence did not find issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance of for future work; rather it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

Overview of PT Temas Shipping

PT Temas Shipping, previously known as PT Pelayaran Tirtamas Express, is a subsidiary of PT TEMAS Tbk and specialises in container shipping. The company was founded on June 12, 1993, initially focusing on ship charter services. At present, PT Temas Shipping operates 45 vessels, connecting more than 62 ports within our national network. There container vessels, certified by the International Safety Management (ISM), ensure operations are safe, efficient, and pollution-free in compliance with international rules and standard practices, thereby establishing our reputation as a reliable container shipping line (PT Temas Tbk, 2024).

ICMC transport verification protocol assessment

Transport Practice 1.1: Select cyanide transport routes to minimise the potential for accidents and releases

Orica procedure "Selection of Transport Routes Transportation of Sodium Cyanide to Customer Sites or Stock Points" (Orica, 2024a) aims to minimise the risk associated with the transportation of sodium cyanide while maintaining a safe, reliable, efficient, and cost-effective delivery system to customer sites and Orica stock points throughout the world. The procedure applies to the selection of delivery routes for Orica sodium cyanide and states that the "selection of route(s) is to be affected by the overall assessment of the risks associated with the utilisation of such route, taking into particular consideration likelihood of an incident occurring and the consequence of such an incident" (Orica, 2024a). This procedure is applicable to all routes used for the transportation of Orica sodium cyanide as well as to Orica's contracted transportation agencies.

Orica's "Route Conditions" procedure is used to assist the selection of cyanide transport routes when the original route cannot be used to minimise potential for accidents and releases. The procedure's intent is "to ensure that relevant feedback from transportation agencies relating to routes utilised for the movement of sodium cyanide is provided through to Orica for the appropriate assessment and follow on actions, as appropriate" (Orica, 2024d). Alteration to chosen route conditions are to be advised by the transportation agency through to the regional Orica Head of Supply, or their delegate, where the change is being implemented. Possible alternatives are then assessed by Orica Head of Supply or their delegate and passed through to the Health, Safety and Environment (HS&E) Officer for update of the applicable route assessment.

An export or International route will include the following:

- Orica production, packaging, and despatch
- Road and rail transportation to port
- International shipping to destination port
- Road transportation to customer (mining operation).

In some instances, sodium cyanide shipments are unloaded at terminals en route to its destination. This is known as trans-shipping and involves a temporary set down within a port facility before loading onto another vessel for continuation of the delivery. It is at the discretion of PT Temas to determine when and where this occurs.

The IMDG Code was given mandatory status under the Safety of Life at Sea (SOLAS) convention in 2004 (IMO, 2024). PT Temas must conduct itself under this code and this extends to the selection of terminals used for trans-shipping.

PT Temas require companies utilising their carrier services to provide evidence that their product packaging has been approved by government regulators and tested in accordance with International Maritime Organization (IMO) and Australian Dangerous Goods (ADG) Code.

Transport Practice 1.5: Follow international standards for transportation of cyanide by sea

Orica's manufacturing facility and transfer stations are ICMC certified (Orica, 2024c). Orica's sodium cyanide is packaged and transported in accordance with the Australian Dangerous Goods (ADG) Code and the International Maritime Dangerous Goods (IMDG) Code (Orica, 2014a), thereby meeting the international standards required for the transportation of dangerous goods by sea.

Orica procedure “Carrier Assessment” provides the framework for ensuring that carriers and their contractors are assessed at regular intervals to ensure that, amongst others, storage, safety, security, maintenance, and emergency response standards are being maintained (Orica, 2024b).

Carriers are required to provide manifest documentation to the destination port to satisfy local customs regulations and the requirements of the IMDG Code. This documentation contains a list of the cargo types and, in the case of sodium cyanide and any other hazardous cargo the quantity, unique packaging numbers, stowage reference and emergency response procedures.

g) Does the ship carrying the cyanide have a list or manifest identifying the presence and location of the cyanide or a detailed stowage plan including this information, as required under Section 5.4.3.1 of the DG Code?

Orica’s manufacturing facility and transfer stations are ICMC certified, sodium cyanide is packaged and transported in accordance with international regulatory standards, such as the United Nations Recommendation on the Transport of Dangerous Goods Model Regulations (United Nations, 2021) and National Codes of Practice such as the Australian Code for the Transport of Dangerous Goods by Road or Rail (NTC, 2022) thereby meeting the requirements of the political jurisdictions through which the loads will pass.

According to Section 5.4 of the ADG Code, Chapter 5.4 of UN22 (United Nations, 2021) outlines the necessary documentation for international, intermodal shipping. As per section 5.4.1.1.1 of this report, it is the responsibility of the consignor, who is offering dangerous goods for transport, to provide the carrier with relevant information about those goods. This information can be supplied via a dangerous goods transport document or, if the carrier agrees, through another method (United Nations, 2021).

In line with IMDG Code, Orica completes a document known as the Multimodal Dangerous Goods Form for the transport of dangerous goods (AMSA, n.d). This form complies with the requirements of SOLAS 74, Chapter VII, Regulation 4 and The International Convention for the Prevention of Pollution from Ships (MARPOL) 73/78, Annex III, Regulation 4 (ICMI, 2021). It includes a container packaging certificate that meets the requirements of Section 5.4.2 of the IMDG Code. Along with this form, additional documentation, in line with part 5 of the ADG Code (NTC, 2022), containing a list of the cargo types, and in the case of sodium cyanide and any other hazardous cargo, the quantity, unique packaging numbers, stowage reference and emergency response procedures should be provided to the carrier. The documentation provided, including Dangerous Goods manifest (including stowage plan) and Packaging Certificates for each container ensure that adequate information is available in order to identify the correct stowage and separation of dangerous goods.

Upon arrival at the port, the ship’s master is provided with a copy of this form. This information then determines the placement and segregation of the container on the vessel and handling through trans-shipment ports, if applicable.

h) Does the ship carrying the cyanide have cyanide emergency response information, as required under Section 5.4.3.2 of the DG Code?

As per Section 5.4 of the ADG Code, Chapter 5.4 of UN22 (United Nations, 2021) details the required documentation for international, multimodal transport. Section 5.4.3 stipulates that emergency response information must be readily available at all times. This information should be kept separate from the dangerous goods packages and be immediately accessible in case of an accident or incident. This includes the provision of a separate document like a safety data sheet and a separate document for ‘Emergency Procedures for Ships Carrying Dangerous Goods’, which should be used in conjunction with the transport document (United Nations, 2021).

Orica have developed the Cyanide Emergency Response Guide to comply fully with obligations as a supplier of cyanide (Orica, 2022) and provides the ‘External Chemical Emergency Form’ template for Carriers.

Emergency response procedures for ships carrying dangerous goods, including the emergency schedules to be followed in case of incidents involving dangerous substances, materials or articles, or harmful substances (marine pollutants), is regulated under the IMDG Code. In accordance with the Code, all ships, and the companies responsible for their operation, are required to maintain a Safety Management System (SMS). Within the SMS, procedures for responding to potential shipboard emergencies are required (IMO, 2024).

In line with the Code, manifests are to be provided to the vessel Master and contain emergency response information. The *Multimodal Dangerous Goods Form* also includes emergency response information.

i) Does the ship comply with the stowage and separation requirements of Part 7 of the DG Code?

According to Section 7.1.1.3 of the United Nations (UN) guidelines (United Nations, 2021), a carrier is prohibited from accepting dangerous goods for transport unless the supplier, in this case Orica, provides a copy of the dangerous goods transport documentation, including in electronic form, along with any other necessary documents. The segregation requirements for dangerous goods are detailed in Section 7.1.2.

The carrier can establish the segregation requirements as outlined in the UN guidelines based on the Multimodal Dangerous Goods Form (AMSA, n.d) provided by Orica, along with the additional required labelling and documentation.

In Orica's Emergency Response Guide (Orica, 2022), the conditions for storing cyanide are specified in Section 2.3 'Methods of Transport'. It is also stated that these conditions should comply with the Australian Standard AS/NZS 4452:1997, which is related to the Storage and Handling of Toxic Substances.

The Indonesia government regulation (No. 74/2001), Article 19, sets the requirements for the management of the hazardous substance storage facility to have an emergency response capacity, management system and handling procedure (Government of the Republic of Indonesia, 2001).

Transport Practice 1.6: Track cyanide shipments to prevent losses during transport

Chain of custody documentation is used by shipping companies to prevent the loss of cargo during shipment. This documentation includes the vessel manifest which identifies the location and content of each container on the vessel along with packing certificates, Multimodal Dangerous Goods Forms and Safety Data Sheets (SDS).

As a SOLAS signatory nation, it is obligated to transmit Long-Range Identification and Tracking (LRIT) information. This system provides global identification and tracking of ships for security, safety and protection of marine environment (IMO, 2024).

Transport Practice 2.1: Store cyanide in a manner that minimises the potential for accidental releases

Orica's Emergency Response Guide for Sodium Cyanide provides the storage requirements for sodium cyanide. Solid sodium cyanide is usually stored and transported in Composite Intermediate Bulk Containers (IBCs) that can hold between 800 and 1100 kilograms. The sodium cyanide is packed into a single-use woven polypropylene bulk bag, which is hermetically sealed within a polyethylene bag that lines the interior of the wooden IBC. This entire package (the composite IBC) has been thoroughly tested and approved according to the United Nations Recommendations for the Transport of Dangerous Goods, Model Regulations (Orica, 2022). As per the approval conditions, the sodium cyanide composite IBCs can only be transported inside a sealed 20-foot general-purpose shipping container. The sodium cyanide must stay within the shipping container throughout all stages of its distribution and can only be unpacked at the mine site.

Additionally, solid sodium cyanide can be transported in specially designed and constructed bulk sparge isotank containers. These containers can hold 20-24 tonnes of bulk solid cyanide. These isotanks are designed, built, and approved to international standards in line with the IMDG Code, making them suitable for transport by road, rail, and sea (Orica, 2022).

As per Orica's Emergency Response Guide for Sodium Cyanide, sodium cyanide should be stored in a dry, cool, and well-ventilated area, secured and under surveillance. Access to the storage area and the product should be limited to authorised personnel who have been trained in cyanide hazards.

Bulk sparge isotainers and shipping containers containing composite IBCs are placarded with and emergency information panel (EIP) detailing the proper shipping name, dangerous goods class number, UN number, HAZCHEM Code and emergency contact information. Containers are placarded with the environmentally hazardous substance markings (United Nations, 2021). Product labels are provided on the side of the IBC that allows forklift access via the pallet base. IBCs are placed into shipping containers so that the label is facing outwards.

Orica's Sodium Cyanide Transport Management Plan (Orica, 2024) stipulates that agents, distributors, and transport companies are obligated to ensure compliance with all legal requirements related to the transport and storage of sodium cyanide. They are also tasked with notifying Orica of any violations or breaches of these legal requirements.

As per the 'Regulation of the Minister of Trade No. 7 of 2022', regarding the distribution and control of hazardous substances, consignors for the distribution of certain hazardous substance are required to obtain a permit to handle hazardous goods and must report the distribution results to the regulatory authority (Aoki Kenji, 2022). As per the government regulation (No. 74/2001) for hazardous and toxic substance management, the consignor must obtain an appropriate license and ensure suitable storage facilities are available for segregation of substances and fitted with the appropriate signage/labels (Government of the Republic of Indonesia, 2001).

Transport Practice 3.1: Prepare detailed emergency response plans for potential cyanide releases

Orica has developed the Emergency Response Guide for Sodium Cyanide (Orica, 2022). This guide stipulates that the first responders should immediately get in touch with trained personnel, such as local site management or emergency services, to establish a basic command structure for managing the situation and providing the necessary emergency response. This includes alerting others in the immediate vicinity of the spill, barricading the area if necessary to prevent exposure, and documenting key information about the scene (e.g.,, location, what happened, who is involved).

After these initial steps, first responders will need to apply their knowledge specific to sodium cyanide to effectively manage casualties, provide appropriate medical treatment, and carry out safe and proper product recovery, site remediation, and decontamination activities.

According to Orica's Transport Management Plan (Orica, 2024), the emergency response plan should cover the entire delivery route. Orica's responsibilities are limited to the aspects of supply for which it is contractually accountable. Agents, distributors, and transport companies must have an appropriate emergency response plan to handle any sodium cyanide incidents within their contractual responsibilities.

The EmS Guide provides guidance on Emergency Response Procedures for Ships Carrying Dangerous Goods, including the Emergency Schedules (EmS), to be followed in case of incidents involving dangerous substances, materials or articles, or harmful substances (marine pollutants). This is regulated under the International Maritime Dangerous Goods Code (IMDG Code) which PT Tema subscribes to (IMO, 2024).

The Indonesia government regulation (No. 74/2001), Article 19, sets the requirements for the management of the hazardous substance storage facility to have an emergency response capacity, management system and handling procedure (Government of the Republic of Indonesia, 2001).

Conclusion

Based on the evidence reviewed, this due diligence did not find significant issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work. Instead, it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

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	18 March 2024

A13 Orient Overseas Container Line (OOCL)

20360521-Carrier- 012. RevA

Author: Megan Wood Approved: Rudi Seebach

Carrier due diligence executive summary

WSP conducted a due diligence of Orient Overseas Container Line (OOCL) during March 2024 on behalf of Orica Australia Pty Ltd (Orica).

The assessment was reviewed by Rudi Seebach who meets the ICMI requirements for a Transport Technical Specialist.

The following items, as detailed in the ICMI's Auditor Guidance for Use of Cyanide Transportation Verification Protocol (ICMI, 2021), were addressed within the due diligence:

- Transport Practice 1.1 (Questions 1-4 and 6)
- Transport Practice 1.5 (Question 1, Items g-i)
- Transport Practice 1.6
- Transport Practice 2.1
- Transport Practice 3.1.

The ICMI's Auditor Guidance for Use of Cyanide Transportation Verification Protocol (ICMI, 2021) was used to conduct the due diligence assessment. It was not possible during this due diligence to physically inspect operations, as such the review was based on information obtained from previous due diligence reviews, ICMI audit reports and publicly available online information. Based on the evidence reviewed, this due diligence did not find issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance of for future work; rather it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

Overview of OOCL

Orient Overseas Container Line, also known as OOCL, along with OOCL (Europe) Limited, are distinct entities providing transportation services. Both are fully owned subsidiaries of Orient Overseas (International) Limited (OOIL). OOCL stands as one of the globe's most extensive integrated international transport and logistics firms. It leads the industry in employing information technology, digitalisation, and e-commerce to oversee the entire cargo transportation process. OOCL's fleet comprises some of the world's youngest, largest, most fuel-efficient, and eco-friendly vessels. These ships transport cargo across numerous trade routes, serving as a crucial connector in global trade (OOIL, 2024).

OOCL has specialised Dangerous Goods Teams in the Americas, Europe, the Middle East, and Asia Pacific. They ensure compliance with legal requirements and safe transport by adhering to stowage and segregation rules (OOCL, 2024). OOCL offers "*DG Smart*," an internet-based portal for efficient Australian Dangerous Goods (ADG) transportation information management. It serves as a multi-carrier platform for data management and promotes low-cost ADG knowledge-sharing (OOCL, 2024).

ICMC transport verification protocol assessment

Transport Practice 1.1: Select cyanide transport routes to minimise the potential for accidents and releases

Orica procedure "Selection of Transport Routes Transportation of Sodium Cyanide to Customer Sites or Stock Points" (Orica, 2024a) aims to minimise the risk associated with the transportation of sodium cyanide while maintaining a safe, reliable, efficient, and cost-effective delivery system to customer sites and Orica stock points throughout the world. The procedure applies to the selection of delivery routes for Orica sodium cyanide and states that the "selection of route(s) is to be affected by the overall assessment of the risks associated with the utilisation of such route, taking into particular consideration likelihood of an incident occurring and the consequence of such an incident" (Orica, 2024a). This procedure is applicable to all routes used for the transportation of Orica sodium cyanide as well as to Orica's contracted transportation agencies.

Orica's "Route Conditions" procedure is used to assist the selection of cyanide transport routes when the original route cannot be used to minimise potential for accidents and releases. The procedure's intent is "to ensure that relevant feedback from transportation agencies relating to routes utilised for the movement of sodium cyanide is provided through to Orica for the appropriate assessment and follow on actions, as appropriate" (Orica, 2024d). Alteration to chosen route conditions are to be advised by the transportation agency through to the regional Orica Head of Supply, or their delegate, where the change is being implemented. Possible alternatives are then assessed by Orica Head of Supply or their delegate and passed through to the Health, Safety and Environment (HS&E) Officer for update of the applicable route assessment.

OOCL Shipping is a carrier service providing international shipping of containers on a fleet of their container vessels (WSP Australia Pty Ltd, 2023). Containers containing solid sodium cyanide are placed and secured on their vessels at the loading port by the stevedoring company and removed at the Port of destination by the stevedoring company at that port.

An export or international route will include the following:

- Orica production, packaging, and despatch
- Road and rail transportation to port
- International shipping to destination port
- Road transportation to customer (mining operation).

In some instances, sodium cyanide shipments are unloaded at terminals en route to its final destination. This is known as trans shipping and involves a temporary set down within a port facility before loading onto another vessel for continuation of the delivery. It is at the discretion of OOCL to determine when and where this occurs. The IMDG Code was given mandatory status under the Safety of Life at Sea (SOLAS) convention in 2004 (IMO, 2024). OOCL must conduct itself under this code and this extends to the selection of terminals used for trans shipping.

Transport Practice 1.5: Follow international standards for transportation of cyanide by sea

Orica's manufacturing facility and transfer stations are ICMC certified (Orica, 2024c). Orica's sodium cyanide is packaged and transported in accordance with the Australia ADG Code and the IMDG Code (Orica, 2014a), thereby meeting the international standards required for the transportation of dangerous goods by sea.

Orica procedure “Carrier Assessment” provides the framework for ensuring that carriers and their contractors are assessed at regular intervals to ensure that, amongst others, storage, safety, security, maintenance, and emergency response standards are being maintained (Orica, 2024b).

Carriers are required to provide manifest documentation to the destination port to satisfy local customs regulations and the requirements of the International Maritime Dangerous Goods (IMDG) Code. This documentation contains a list of the cargo types and, in the case of sodium cyanide and any other hazardous cargo the quantity, unique packaging numbers, stowage reference and emergency response procedures.

OOCL operates dedicated Dangerous Goods Teams across three key regions: the Americas, Europe and the Middle East, and Asia Pacific. Each region has its unique procedures for handling Dangerous Goods applications and approvals. The company’s ADG coordinators provide necessary guidance to shippers. They ensure that a shipper’s or customer’s Dangerous Goods cargo is inspected swiftly and accurately, all legal requirements pertaining to the countries/regions and ports involved in the transport are considered in these procedures and that there is safe and compliant transportation of Dangerous Goods (OOCL, 2024).

g) Does the ship carrying the cyanide have a list or manifest identifying the presence and location of the cyanide or a detailed stowage plan including this information, as required under Section 5.4.3.1 of the DG Code?

Orica’s manufacturing facility and transfer stations are ICMC certified, sodium cyanide is packaged and transported in accordance with international regulatory standards, such as the United Nations Recommendation on the Transport of Dangerous Goods Model Regulations (United Nations, 2021) and National Codes of Practice such as the Australian Code for the Transport of Dangerous Goods by Road or Rail (NTC, 2022) thereby meeting the requirements of the political jurisdictions through which the loads will pass.

According to Section 5.4 of the ADG Code, Chapter 5.4 of UN22 (United Nations, 2021) outlines the necessary documentation for international, intermodal shipping. As per section 5.4.1.1.1 of this report, it is the responsibility of the consignor, who is offering dangerous goods for transport, to provide the carrier with relevant information about those goods. This information can be supplied via a dangerous goods transport document or, if the carrier agrees, through another method (United Nations, 2021).

In line with IMDG Code, Orica completes a document known as the Multimodal Dangerous Goods Form for the transport of dangerous goods (AMSA, n.d). This form complies with the requirements of SOLAS 74, Chapter VII, Regulation 4 and The International Convention for the Prevention of Pollution from Ships (MARPOL) 73/78, Annex III, Regulation 4 (ICMI, 2021). It includes a container packaging certificate that meets the requirements of Section 5.4.2 of the IMDG Code. Along with this form, additional documentation, in line with part 5 of the ADG Code (NTC, 2022), containing a list of the cargo types, and in the case of sodium cyanide and any other hazardous cargo, the quantity, unique packaging numbers, stowage reference and emergency response procedures should be provided to the carrier. The documentation provided, including Dangerous Goods manifest (including stowage plan) and Packaging Certificates for each container ensure that adequate information is available to identify the correct stowage and separation of dangerous goods.

Upon arrival at the port, the ship’s master is provided with a copy of this form. This information then determines the placement and segregation of the container on the vessel and handling through trans-shipment ports, if applicable.

OOCL guarantees secure transportation by adhering to the appropriate stowage and segregation requirements for dangerous goods (OOCL, 2024). This adherence enhances the safety of the cargo, the vessel, the crew, cargo handlers, and the environment at large.

h) Does the ship carrying the cyanide have cyanide emergency response information, as required under Section 5.4.3.2 of the DG Code?

As per Section 5.4 of the ADG Code, Chapter 5.4 of UN22 (United Nations, 2021) details the required documentation for international, multimodal transport. Section 5.4.3 stipulates that emergency response information must be readily available at all times. This information should be kept separate from the dangerous goods packages and be immediately accessible in case of an accident or incident. This includes the provision of a separate document like a safety data sheet and a separate document for 'Emergency Procedures for Ships Carrying Dangerous Goods', which should be used in conjunction with the transport document (United Nations, 2021).

Orica have developed the Cyanide Emergency Response Guide to comply fully with obligations as a supplier of cyanide (Orica, 2022) and provides the 'External Chemical Emergency Form' template for Carriers.

Emergency response procedures for ships carrying dangerous goods, including the emergency schedules to be followed in case of incidents involving dangerous substances, materials or articles, or harmful substances (marine pollutants), is regulated under the IMDG Code. In accordance with the Code, all ships, and the companies responsible for their operation, are required to maintain a Safety Management System (SMS). Within the SMS, procedures for responding to potential shipboard emergencies are required (IMO, 2024).

OOCL operations personnel provide the vessel's Master with copies of the Emergency Information, Dangerous Goods manifest (including stowage plan), Packaging Certificates and the *Multimodal Dangerous Goods Form* for each hazardous cargo transport units loaded onto the ship in line with Custom Advanced Manifest per country (OOCL, 2024).

i) Does the ship comply with the stowage and separation requirements of Part 7 of the DG Code?

According to Section 7.1.1.3 of the United Nations (UN) guidelines (United Nations, 2021), a carrier is prohibited from accepting dangerous goods for transport unless the supplier, in this case Orica, provides a copy of the dangerous goods transport documentation, including in electronic form, along with any other necessary documents. The segregation requirements for dangerous goods are detailed in Section 7.1.2.

The carrier can establish the segregation requirements as outlined in the UN guidelines based on the Multimodal Dangerous Goods Form (AMSA, n.d) provided by Orica, along with the additional required labelling and documentation.

In Orica's Emergency Response Guide (Orica, 2022), the conditions for storing cyanide are specified in Section 2.3 'Methods of Transport'. It is also stated that these conditions should comply with the Australian Standard AS/NZS 4452:1997, which is related to the Storage and Handling of Toxic Substances.

OOCL guarantees safe transportation by adhering to the appropriate stowage and segregation requirements for dangerous goods (OOCL, 2024). OOCL's Dangerous Goods System has a training system, known as "DG **Smart**," which covers parties involved in ADG transportation processes including carriers, forwarders, manufactures, port authorities, and ADG/chemical experts. The system integrates all processes involved in ADG transportation, and its technical standard for data processing (OOCL, 2024).

OOCL comply with the stowage and separation requirements of Chapter 7 of the UN guidelines through the following (WSP Australia Pty Ltd, 2023):

- The *Multimodal Dangerous Goods Form* used by Orica and OOCL is the document referenced in the IMDG Code (Chapter 5.4) and meets the requirements of SOLAS 74, chapter VII, regulation 4, MAR POL 73/78, Annex III, Regulation 4 and the provisions of the Code.
- A copy of the *Form* is provided to OOCL for assigning the container reference numbers and sending the HAZCHEM bookings for finalisation. From the *Form*, data is entered into the OOCL tracking and monitoring system that allows for the determination of placement and segregation of the containers on the vessel and handling through shipment ports.

- All containers (stipulated by their reference number) must be finalised by the vessel loading cut-off time. This requires the *Form* to be provided between 48 and 24 hours prior to cut-off.

Transport Practice 1.6: Track cyanide shipments to prevent losses during transport

OOCL vessels have continuous means of tracking and communication during their voyages. In line with the ISPS Code ships undergo a process of inspection, validation, certification, and regulation to confirm the implementation of their monitoring and security measures (OOCL, 2024).

Chain of custody documentation is used by OOCL to prevent the loss of cargo during shipment. This documentation includes the vessel manifest and Safety Data Sheets (SDS), which identifies the location and content of each container on the vessel.

Transport Practice 2.1: Store cyanide in a manner that minimises the potential for accidental releases

Orica's Emergency Response Guide for Sodium Cyanide provides the storage requirements for sodium cyanide. Solid sodium cyanide is usually stored and transported in Composite Intermediate Bulk Containers (IBCs) that can hold between 800 and 1100 kilograms. The sodium cyanide is packed into a single-use woven polypropylene bulk bag, which is hermetically sealed within a polyethylene bag that lines the interior of the wooden IBC. This entire package (the composite IBC) has been thoroughly tested and approved according to the United Nations Recommendations for the Transport of Dangerous Goods, Model Regulations (Orica, 2022). As per the approval conditions, the sodium cyanide composite IBCs can only be transported inside a sealed 20-foot general-purpose shipping container. The sodium cyanide must stay within the shipping container throughout all stages of its distribution and can only be unpacked at the mine site.

Additionally, solid sodium cyanide can be transported in specially designed and constructed bulk sparge isotank containers. These containers can hold 20-24 tonnes of bulk solid cyanide. These isotanks are designed, built, and approved to international standards in line with the IMDG Code, making them suitable for transport by road, rail, and sea (Orica, 2022).

As per Orica's Emergency Response Guide for Sodium Cyanide, sodium cyanide should be stored in a dry, cool, and well-ventilated area, secured and under surveillance. Access to the storage area and the product should be limited to authorised personnel who have been trained in cyanide hazards.

Bulk sparge isotainers and shipping containers containing composite IBCs are placarded with and emergency information panel (EIP) detailing the proper shipping name, dangerous goods class number, UN number, HAZCHEM Code and emergency contact information. Containers are placarded with the environmentally hazardous substance markings (United Nations, 2021). Product labels are provided on the side of the IBC that allows forklift access via the pallet base. IBCs are placed into shipping containers so that the label is facing outwards.

Orica's Sodium Cyanide Transport Management Plan (Orica, 2024) stipulates that agents, distributors, and transport companies are obligated to ensure compliance with all legal requirements related to the transport and storage of sodium cyanide. They are also tasked with notifying Orica of any violations or breaches of these legal requirements.

Transport Practice 3.1: Prepare detailed emergency response plans for potential cyanide releases

Orica has developed the Emergency Response Guide for Sodium Cyanide (Orica, 2022). This guide stipulates that the first responders should immediately get in touch with trained personnel, such as local site management or emergency services, to establish a basic command structure for managing the situation and providing the necessary emergency response. This includes alerting others in the immediate vicinity of the spill, barricading the area if necessary to prevent exposure, and documenting key information about the scene (e.g.,, location, what happened, who is involved).

After these initial steps, first responders will need to apply their knowledge specific to sodium cyanide to effectively manage casualties, provide appropriate medical treatment, and carry out safe and proper product recovery, site remediation, and decontamination activities.

According to Orica's Transport Management Plan (Orica, 2024), the emergency response plan should cover the entire delivery route. Orica's responsibilities are limited to the aspects of supply for which it is contractually accountable. Agents, distributors, and transport companies must have an appropriate emergency response plan to handle any sodium cyanide incidents within their contractual responsibilities.

The EmS Guide provides guidance on Emergency Response Procedures for Ships Carrying Dangerous Goods, including the Emergency Schedules (EmS), to be followed in case of incidents involving dangerous substances, materials or articles, or harmful substances (marine pollutants). This is regulated under the IMDG Code which OOCL subscribes to (IMO, 2024).

OOCL operations personnel provide the vessel's Master with copies of the Emergency Information, Dangerous Goods manifest (including stowage plan), Packaging Certificates and the Multimodal Dangerous Goods Form for each hazardous cargo transport units loaded onto the ship at the port.

Conclusion

Based on the evidence reviewed, this due diligence did not find significant issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work. Instead, it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

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A14 Pacific International Lines (PIL) (Formerly Pacific Asia Express)

12 March 2024

20360521-Carrier- 013. RevA

Author: Megan Wood Approved: Rudi Seebach

Carrier due diligence executive summary

WSP conducted a due diligence of Pacific International Lines (PIL) (also known as Pacific Asia Express (PAE)) during March 2024 on behalf of Orica Australia Pty Ltd (Orica).

The assessment was reviewed by Rudi Seebach who meets the ICMI requirements for a Transport Technical Specialist.

The following items, as detailed in the ICMI's Auditor Guidance for Use of Cyanide Transportation Verification Protocol (ICMI, 2021), were addressed within the due diligence:

- Transport Practice 1.1 (Questions 1-4 and 6)
- Transport Practice 1.5 (Question 1, Items g-i)
- Transport Practice 1.6
- Transport Practice 2.1
- Transport Practice 3.1.

The ICMI's Auditor Guidance for Use of Cyanide Transportation Verification Protocol (ICMI, 2021) was used to conduct the due diligence assessment. It was not possible during this due diligence to physically inspect operations, as such the review was based on information obtained from previous due diligence reviews, ICMI audit reports and publicly available online information. Based on the evidence reviewed, this due diligence did not find issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance of for future work; rather it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

Overview of PIL PAE

In July 2023, Pacific Asia Express underwent a rebranding process and emerged as Pacific International Lines (PIL) Australia, aiming to unify the network under a single brand identity. PIL Australia positions itself as an ideal partner for connecting customers to markets in Oceania and beyond.

PIL offers container liner services to major ports worldwide, with a strong presence in Asia, Africa, Latin America, the Middle East, Oceania, and the Indian Subcontinent. They focus on safe and efficient cargo transportation, catering to special cargo needs such as oversized or overweight items that do not fit standard containers. PIL's fleet, built to their precise specifications for safety, includes vessels equipped for out-of-gauge and un-containerised cargo. They also specialise in handling dangerous cargo, adhering strictly to the IMDG Code for safety and legal compliance (PIL, 2024). PIL's service network is extensive, and they provide innovative solutions like paperless bill of lading and cyber security focus, ensuring they meet the evolving needs of global trade and commerce.

ICMC transport verification protocol assessment

Transport Practice 1.1: Select cyanide transport routes to minimise the potential for accidents and releases

Orica procedure "Selection of Transport Routes Transportation of Sodium Cyanide to Customer Sites or Stock Points" (Orica, 2024a) aims to minimise the risk associated with the transportation of sodium cyanide while maintaining a safe, reliable, efficient, and cost-effective delivery system to customer sites and Orica stock points throughout the world. The procedure applies to the selection of delivery routes for Orica sodium cyanide and states that the "selection of route(s) is to be affected by the overall assessment of the risks associated with the utilisation of such route, taking into particular consideration likelihood of an incident occurring and the consequence of such an incident" (Orica, 2024a). This procedure is applicable to all routes used for the transportation of Orica sodium cyanide as well as to Orica's contracted transportation agencies.

Orica's "Route Conditions" procedure is used to assist the selection of cyanide transport routes when the original route cannot be used to minimise potential for accidents and releases. The procedure's intent is "to ensure that relevant feedback from transportation agencies relating to routes utilised for the movement of sodium cyanide is provided through to Orica for the appropriate assessment and follow on actions, as appropriate" (Orica, 2024d). Alteration to chosen route conditions are to be advised by the transportation agency through to the regional Orica Head of Supply, or their delegate, where the change is being implemented. Possible alternatives are then assessed by Orica Head of Supply or their delegate and passed through to the Health, Safety and Environment (HS&E) Officer for update of the applicable route assessment.

PIL is a carrier service providing international shipping of containers on a fleet of their container vessels (WSP Australia Pty Ltd, 2023). Containers containing solid sodium cyanide are placed and secured on their vessels at the loading port by the stevedoring company and removed at the Port of destination by the stevedoring company at that port.

An export or international route will include the following:

- Orica production, packaging, and despatch
- Road and rail transportation to port
- International shipping to destination port
- Road transportation to customer (mining operation).

In some instances, sodium cyanide shipments are unloaded at terminals en route to its final destination. This is known as trans shipping and involves a temporary set down within a port facility before loading onto another vessel for continuation of the delivery. It is at the discretion of PIL PAE to determine when and where this occurs. The IMDG Code was given mandatory status under the Safety of Life at Sea (SOLAS) convention in 2004 (IMO, 2024). PIL must conduct itself under this code and this extends to the selection of terminals used for trans shipping.

Transport Practice 1.5: Follow international standards for transportation of cyanide by sea

Orica's manufacturing facility and transfer stations are ICMC certified (Orica, 2024c). Orica's sodium cyanide is packaged and transported in accordance with the Australian Dangerous Goods (ADG) Code and the International Maritime Dangerous Goods (IMDG) Code (Orica, 2014a), thereby meeting the international standards required for the transportation of dangerous goods by sea.

Orica procedure “Carrier Assessment” provides the framework for ensuring that carriers and their contractors are assessed at regular intervals to ensure that, amongst others, storage, safety, security, maintenance, and emergency response standards are being maintained (Orica, 2024b).

Carriers are required to provide manifest documentation to the destination port to satisfy local customs regulations and the requirements of the IMDG Code (WSP Australia Pty Ltd, 2023). This documentation contains a list of the cargo types and, in the case of sodium cyanide and any other hazardous cargo the quantity, unique packaging numbers, stowage reference and emergency response procedures.

g) Does the ship carrying the cyanide have a list or manifest identifying the presence and location of the cyanide or a detailed stowage plan including this information, as required under Section 5.4.3.1 of the DG Code?

Orica’s manufacturing facility and transfer stations are ICMC certified, sodium cyanide is packaged and transported in accordance with international regulatory standards, such as the United Nations Recommendation on the Transport of Dangerous Goods Model Regulations (United Nations, 2021) and National Codes of Practice such as the Australian Code for the Transport of Dangerous Goods by Road or Rail (NTC, 2022) thereby meeting the requirements of the political jurisdictions through which the loads will pass.

According to Section 5.4 of the ADG Code, Chapter 5.4 of UN22 (United Nations, 2021) outlines the necessary documentation for international, intermodal shipping. As per section 5.4.1.1.1 of this report, it is the responsibility of the consignor, who is offering dangerous goods for transport, to provide the carrier with relevant information about those goods. This information can be supplied via a dangerous goods transport document or, if the carrier agrees, through another method (United Nations, 2021).

In line with IMDG Code, Orica completes a document known as the Multimodal Dangerous Goods Form for the transport of dangerous goods (AMSA, n.d). This form complies with the requirements of SOLAS 74, Chapter VII, Regulation 4 and The International Convention for the Prevention of Pollution from Ships (MARPOL) 73/78, Annex III, Regulation 4 (ICMI, 2021). It includes a container packaging certificate that meets the requirements of Section 5.4.2 of the IMDG Code. Along with this form, additional documentation, in line with part 5 of the ADG Code (NTC, 2022), containing a list of the cargo types, and in the case of sodium cyanide and any other hazardous cargo, the quantity, unique packaging numbers, stowage reference and emergency response procedures should be provided to the carrier. The documentation provided, including Dangerous Goods manifest (including stowage plan) and Packaging Certificates for each container ensure that adequate information is available in order to identify the correct stowage and separation of dangerous goods.

Upon arrival at the port, the ship’s master is provided with a copy of this form. This information then determines the placement and segregation of the container on the vessel and handling through trans-shipment ports, if applicable.

PIL operations personnel provide the vessel’s Master with copies of the Emergency Information, Dangerous Goods manifest (including stowage plan), Packaging Certificates and the *Multimodal Dangerous Goods Form* for each hazardous cargo transport units loaded onto the ship at the port (WSP Australia Pty Ltd, 2023).

Does the ship carrying the cyanide have cyanide emergency response information, as required under Section 5.4.3.2 of the DG Code?

As per Section 5.4 of the ADG Code, Chapter 5.4 of UN22 (United Nations, 2021) details the required documentation for international, multimodal transport. Section 5.4.3 stipulates that emergency response information must be readily available at all times. This information should be kept separate from the dangerous goods packages and be immediately accessible in case of an accident or incident. This includes the provision of a separate document like a safety data sheet and a separate document for ‘Emergency Procedures for Ships Carrying Dangerous Goods’, which should be used in conjunction with the transport document (United Nations, 2021).

Orica have developed the Cyanide Emergency Response Guide to comply fully with obligations as a supplier of cyanide (Orica, 2022) and provides the 'External Chemical Emergency Form' template for Carriers.

Emergency response procedures for ships carrying dangerous goods, including the emergency schedules to be followed in case of incidents involving dangerous substances, materials or articles, or harmful substances (marine pollutants), is regulated under the IMDG Code. In accordance with the Code, all ships, and the companies responsible for their operation, are required to maintain a Safety Management System (SMS). Within the SMS, procedures for responding to potential shipboard emergencies are required (IMO, 2024).

In line with the Code, manifests are to be provided to the vessel Master and contain emergency response information. The *Multimodal Dangerous Goods Form* also includes emergency response information.

Does the ship comply with the stowage and separation requirements of Part 7 of the DG Code?

According to Section 7.1.1.3 of the United Nations (UN) guidelines (United Nations, 2021), a carrier is prohibited from accepting dangerous goods for transport unless the supplier, in this case Orica, provides a copy of the dangerous goods transport documentation, including in electronic form, along with any other necessary documents. The segregation requirements for dangerous goods are detailed in Section 7.1.2.

The carrier can establish the segregation requirements as outlined in the UN guidelines based on the Multimodal Dangerous Goods Form (AMSA, n.d) provided by Orica, along with the additional required labelling and documentation.

In Orica's Emergency Response Guide (Orica, 2022), the conditions for storing cyanide are specified in Section 2.3 'Methods of Transport'. It is also stated that these conditions should comply with the Australian Standard AS/NZS 4452:1997, which is related to the Storage and Handling of Toxic Substances.

Transport Practice 1.6: Track cyanide shipments to prevent losses during transport

As per PILs Bill of Lading (BOL) terms (PIL, 2024), any goods that are or could become dangerous, hazardous, or damaging must not be handed over to the Carrier for transportation without prior written notice and the Carrier's explicit written consent. These goods must be distinctly marked on the outside to indicate their nature and to comply with all applicable laws and regulations. If such goods are delivered without such consent or marking, or if they are deemed to be potentially dangerous, they may be unloaded, destroyed, disposed of, abandoned, or rendered harmless at any time and place without prior notice or compensation to the Merchant. The Merchant is required to ensure that such goods are packed adequately to withstand the risks of transportation, considering their nature and in compliance with all applicable laws or regulations during transportation.

PIL has a track and trace system that can be utilised to track cyanide shipments.

Transport Practice 2.1: Store cyanide in a manner that minimises the potential for accidental releases

Orica's Emergency Response Guide for Sodium Cyanide provides the storage requirements for sodium cyanide. Solid sodium cyanide is usually stored and transported in Composite Intermediate Bulk Containers (IBCs) that can hold between 800 and 1100 kilograms. The sodium cyanide is packed into a single-use woven polypropylene bulk bag, which is hermetically sealed within a polyethylene bag that lines the interior of the wooden IBC. This entire package (the composite IBC) has been thoroughly tested and approved according to the United Nations Recommendations for the Transport of Dangerous Goods, Model Regulations (Orica, 2022). As per the approval conditions, the sodium cyanide composite IBCs can only be transported inside a sealed 20-foot general-purpose shipping container. The sodium cyanide must stay within the shipping container throughout all stages of its distribution and can only be unpacked at the mine site.

Additionally, solid sodium cyanide can be transported in specially designed and constructed bulk sparge isotank containers. These containers can hold 20-24 tonnes of bulk solid cyanide. These isotanks are designed, built, and approved to international standards in line with the IMDG Code, making them suitable for transport by road, rail, and sea (Orica, 2022).

As per Orica's Emergency Response Guide for Sodium Cyanide, sodium cyanide should be stored in a dry, cool, and well-ventilated area, secured and under surveillance. Access to the storage area and the product should be limited to authorised personnel who have been trained in cyanide hazards.

Bulk sparge isotainers and shipping containers containing composite IBCs are placarded with and emergency information panel (EIP) detailing the proper shipping name, dangerous goods class number, UN number, HAZCHEM Code and emergency contact information. Containers are placarded with the environmentally hazardous substance markings (United Nations, 2021). Product labels are provided on the side of the IBC that allows forklift access via the pallet base. IBCs are placed into shipping containers so that the label is facing outwards.

Orica's Sodium Cyanide Transport Management Plan (Orica, 2024) stipulates that agents, distributors, and transport companies are obligated to ensure compliance with all legal requirements related to the transport and storage of sodium cyanide. They are also tasked with notifying Orica of any violations or breaches of these legal requirements.

PIL stores dangerous goods in line with the definition of the Hague Rules or US COGSA. The 'Hague Rules' refer to the provisions of the International Convention for the Unification of certain rules relating to Bills of Lading, signed at Brussels on 25th August 1924. This includes amendments by the protocol signed at Brussels on 23rd February 1968 and 1979, collectively known as the "Visby Amendments," but only if these amendments are compulsorily applicable to this Bill of Lading. Whereas, the 'US COGSA' refers to the United States Carriage of Goods by Sea Act, 46 U.S.C. App. § 1300 et seq., enacted in 1936 and any subsequent recodification thereof (PIL, 2024).

Transport Practice 3.1: Prepare detailed emergency response plans for potential cyanide releases

Orica has developed the Emergency Response Guide for Sodium Cyanide (Orica, 2022). This guide stipulates that the first responders should immediately get in touch with trained personnel, such as local site management or emergency services, to establish a basic command structure for managing the situation and providing the necessary emergency response. This includes alerting others in the immediate vicinity of the spill, barricading the area if necessary to prevent exposure, and documenting key information about the scene (e.g.,, location, what happened, who is involved).

After these initial steps, first responders will need to apply their knowledge specific to sodium cyanide to effectively manage casualties, provide appropriate medical treatment, and carry out safe and proper product recovery, site remediation, and decontamination activities.

According to Orica's Transport Management Plan (Orica, 2024), the emergency response plan should cover the entire delivery route. Orica's responsibilities are limited to the aspects of supply for which it is contractually accountable. Agents, distributors, and transport companies must have an appropriate emergency response plan to handle any sodium cyanide incidents within their contractual responsibilities.

The EmS Guide provides guidance on Emergency Response Procedures for Ships Carrying Dangerous Goods, including the Emergency Schedules (EmS), to be followed in case of incidents involving dangerous substances, materials or articles, or harmful substances (marine pollutants). This is regulated under the International Maritime Dangerous Goods Code (IMDG Code) which PIL subscribes to (IMO, 2024).

The International Safety Management (ISM) Code provides an international standard for the safe management and operation of ships, and for pollution prevention, which PIL and its vessels have duly complied with. The ISM Code requires PIL to develop, implement and maintain a SMS in relation to the ISM Code.

Conclusion

Based on the evidence reviewed, this due diligence did not find significant issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work. Instead, it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

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A15 Swire

12 March 2024

20360521-Carrier- 014. RevA

Author: Megan Wood Approved: Rudi Seebach

Carrier due diligence executive summary

WSP conducted a due diligence of Swire during March 2024 on behalf of Orica Australia Pty Ltd (Orica).

The assessment was reviewed by Rudi Seebach who meets the ICMI requirements for a Transport Technical Specialist.

The following items, as detailed in the ICMI's Auditor Guidance for Use of Cyanide Transportation Verification Protocol (ICMI, 2021), were addressed within the due diligence:

- Transport Practice 1.1 (Questions 1-4 and 6)
- Transport Practice 1.5 (Question 1, Items g-i)
- Transport Practice 1.6
- Transport Practice 2.1
- Transport Practice 3.1.

The ICMI's Auditor Guidance for Use of Cyanide Transportation Verification Protocol (ICMI, 2021) was used to conduct the due diligence assessment. It was not possible during this due diligence to physically inspect operations, as such the review was based on information obtained from previous due diligence reviews, ICMI audit reports and publicly available online information. Based on the evidence reviewed, this due diligence did not find issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance of for future work; rather it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

Overview of Swire

Swire Shipping Pty. Ltd., formally known as The China Navigation Company, a wholly owned subsidiary of John Swire & Sons Limited, is headquartered in Singapore and operates globally with offices in 17 countries and a team of over 2,500 seafaring and onshore personnel (Swire, 2024). In October 2020, the company launched Swire Projects, a division dedicated to providing specialised shipping services to the energy, renewable, and infrastructure sectors. In July 2021, Swire Shipping expanded its service offerings to include landside logistics services such as customs clearance, inland transportation services, and cargo management solutions, thereby complementing its existing liner shipping services (Swire, 2024).

The company employs over 2,900 onshore and seafaring staff globally and operates in more than 90 countries (Swire Shipping, 2024b). Swire Shipping operates 14 liner services, linking more than 400 ports both in the Asia-Pacific region and worldwide (Swire Shipping, 2024b).

ICMC transport verification protocol assessment

Transport Practice 1.1: Select cyanide transport routes to minimise the potential for accidents and releases

Orica procedure "Selection of Transport Routes Transportation of Sodium Cyanide to Customer Sites or Stock Points" (Orica, 2024a) aims to minimise the risk associated with the transportation of sodium cyanide while maintaining a safe, reliable, efficient, and cost-effective delivery system to customer sites and Orica stock points throughout the world. The procedure applies to the selection of delivery routes for Orica sodium cyanide and states that the "selection of route(s) is to be affected by the overall assessment of the risks associated with the utilisation of such route, taking into particular consideration likelihood of an incident occurring and the consequence of such an incident" (Orica, 2024a). This procedure is applicable to all routes used for the transportation of Orica sodium cyanide as well as to Orica's contracted transportation agencies.

Orica's "Route Conditions" procedure is used to assist the selection of cyanide transport routes when the original route cannot be used to minimise potential for accidents and releases. The procedure's intent is "to ensure that relevant feedback from transportation agencies relating to routes utilised for the movement of sodium cyanide is provided through to Orica for the appropriate assessment and follow on actions, as appropriate" (Orica, 2024d). Alteration to chosen route conditions are to be advised by the transportation agency through to the regional Orica Head of Supply, or their delegate, where the change is being implemented. Possible alternatives are then assessed by Orica Head of Supply or their delegate and passed through to the Health, Safety and Environment (HS&E) Officer for update of the applicable route assessment.

Swire Shipping is a carrier service providing international shipping of containers on a fleet of their container vessels. Containers containing solid sodium cyanide are placed and secured on their vessels at the loading port by the stevedoring company and removed at the Port of destination by the stevedoring company at that port.

An export or international route will include the following:

- Orica production, packaging, and despatch
- Road and rail transportation to port
- International shipping to destination port
- Road transportation to customer (mining operation).

In some instances, sodium cyanide shipments are unloaded at terminals en route to its final destination. This is known as trans shipping and involves a temporary set down within a port facility before loading onto another vessel for continuation of the delivery. It is at the discretion of Swire to determine when and where this occurs. The IMDG Code was given mandatory status under the Safety of Life at Sea (SOLAS) convention in 2004 (IMO, 2024). Swire must conduct itself under this code and this extends to the selection of terminals used for trans shipping.

Transport Practice 1.5: Follow international standards for transportation of cyanide by sea

Orica's manufacturing facility and transfer stations are ICMC certified (Orica, 2024c). Orica's sodium cyanide is packaged and transported in accordance with the ADG Code and the IMDG Code (Orica, 2014a), thereby meeting the international standards required for the transportation of dangerous goods by sea.

Orica procedure "Carrier Assessment" provides the framework for ensuring that carriers and their contractors are assessed at regular intervals to ensure that, amongst others, storage, safety, security, maintenance, and emergency response standards are being maintained (Orica, 2024b).

Carriers are required to provide manifest documentation to the destination port to satisfy local customs regulations and the requirements of the IMDG Code (WSP Australia Pty Ltd, 2023). This documentation contains a list of the cargo types and, in the case of sodium cyanide and any other hazardous cargo the quantity, unique packaging numbers, stowage reference and emergency response procedures.

g) Does the ship carrying the cyanide have a list or manifest identifying the presence and location of the cyanide or a detailed stowage plan including this information, as required under Section 5.4.3.1 of the DG Code?

Orica's manufacturing facility and transfer stations are ICMC certified, sodium cyanide is packaged and transported in accordance with international regulatory standards, such as the United Nations Recommendation on the Transport of Dangerous Goods Model Regulations (United Nations, 2021) and National Codes of Practice such as the Australian Code for the Transport of Dangerous Goods by Road or Rail (NTC, 2022) thereby meeting the requirements of the political jurisdictions through which the loads will pass.

According to Section 5.4 of the ADG Code, Chapter 5.4 of UN22 (United Nations, 2021) outlines the necessary documentation for international, intermodal shipping. As per section 5.4.1.1.1 of this report, it is the responsibility of the consignor, who is offering dangerous goods for transport, to provide the carrier with relevant information about those goods. This information can be supplied via a dangerous goods transport document or, if the carrier agrees, through another method (United Nations, 2021).

In line with IMDG Code, Orica completes a document known as the Multimodal Dangerous Goods Form for the transport of dangerous goods (AMSA, n.d). This form complies with the requirements of SOLAS 74, Chapter VII, Regulation 4 and The International Convention for the Prevention of Pollution from Ships (MARPOL) 73/78, Annex III, Regulation 4 (ICMI, 2021). It includes a container packaging certificate that meets the requirements of Section 5.4.2 of the IMDG Code. Along with this form, additional documentation, in line with part 5 of the ADG Code (NTC, 2022), containing a list of the cargo types, and in the case of sodium cyanide and any other hazardous cargo, the quantity, unique packaging numbers, stowage reference and emergency response procedures should be provided to the carrier. The documentation provided, including Dangerous Goods manifest (including stowage plan) and Packaging Certificates for each container ensure that adequate information is available to identify the correct stowage and separation of dangerous goods.

Upon arrival at the port, the ship's master is provided with a copy of this form. This information then determines the placement and segregation of the container on the vessel and handling through trans-shipment ports, if applicable.

h) Does the ship carrying the cyanide have cyanide emergency response information, as required under Section 5.4.3.2 of the DG Code?

As per Section 5.4 of the ADG Code, Chapter 5.4 of UN22 (United Nations, 2021) details the required documentation for international, multimodal transport. Section 5.4.3 stipulates that emergency response information must be readily available at all times. This information should be kept separate from the dangerous goods packages and be immediately accessible in case of an accident or incident. This includes the provision of a separate document like a safety data sheet and a separate document for 'Emergency Procedures for Ships Carrying Dangerous Goods', which should be used in conjunction with the transport document (United Nations, 2021).

Orica have developed the Cyanide Emergency Response Guide to comply fully with obligations as a supplier of cyanide (Orica, 2022) and provides the 'External Chemical Emergency Form' template for Carriers.

Emergency response procedures for ships carrying dangerous goods, including the emergency schedules to be followed in case of incidents involving dangerous substances, materials or articles, or harmful substances (marine pollutants), is regulated under the IMDG Code. In accordance with the Code, all ships, and the companies responsible for their operation, are required to maintain a Safety Management System (SMS). Within the SMS, procedures for responding to potential shipboard emergencies are required (IMO, 2024).

In line with the Code, manifests are to be provided to the vessel Master and contain emergency response information. The *Multimodal Dangerous Goods Form* also includes emergency response information.

i) Does the ship comply with the stowage and separation requirements of Part 7 of the DG Code?

According to Section 7.1.1.3 of the United Nations (UN) guidelines (United Nations, 2021), a carrier is prohibited from accepting dangerous goods for transport unless the supplier, in this case Orica, provides a copy of the dangerous goods transport documentation, including in electronic form, along with any other necessary documents. The segregation requirements for dangerous goods are detailed in Section 7.1.2.

The carrier can establish the segregation requirements as outlined in the UN guidelines based on the Multimodal Dangerous Goods Form (AMSA, n.d) provided by Orica, along with the additional required labelling and documentation.

In Orica's Emergency Response Guide (Orica, 2022), the conditions for storing cyanide are specified in Section 2.3 'Methods of Transport'. It is also stated that these conditions should comply with the Australian Standard AS/NZS 4452:1997, which is related to the Storage and Handling of Toxic Substances.

Swire Shipping offers a variety of logistics solutions for the transportation of dangerous goods. Their services include classification, packaging, and compliance with dangerous goods regulations (Swire, 2024). In addition, Swire comply with the stowage and separation requirements of Chapter 7 of the United Nations Guidelines through the following (WSP Australia Pty Ltd, 2023):

- The *Multimodal Dangerous Goods Form* completed by Orica and give to Swire is the document referenced in the IMDG Code (Chapter 5.4) and meets the requirements of SOLAS 74, chapter VII, regulation 4, MAR POL 73/78, Annex III, Regulation 4 and the provisions of the Code.
- A copy of the *Form* is provided to Swire for assigning the container reference numbers and sending the HAZCHEM bookings for finalisation. From the *Form*, data is entered into the Swire tracking and monitoring system that allows for the determination of placement and segregation of the containers on the vessel and handling through shipment ports.
- All containers (stipulated by their reference number) must be finalised by the vessel loading cut-off time.

Documentation provided including Dangerous Goods manifest (including stowage plan) and Packaging Certificates for each container ensure that adequate information is available to identify the correct stowage and separation of dangerous goods (WSP Australia Pty Ltd, 2023). This information then determines the placement and segregation of the container on the vessel and handling through trans-shipment ports, if applicable.

Transport Practice 1.6: Track cyanide shipments to prevent losses during transport

Swire vessels have continuous means of tracking and communication during their voyages. Swire has their own in-house tracking systems for tracking freight, which is linked by the container number and Bill of Lading (BOL) number (WSP Australia Pty Ltd, 2023).

Chain of custody documentation is used by Swire to prevent the loss of cargo during shipment (WSP Australia Pty Ltd, 2023). This documentation includes the vessel manifest and Safety Data Sheets (SDS), which identifies the location and content of each container on the vessel.

Transport Practice 2.1: Store cyanide in a manner that minimises the potential for accidental releases

Orica's Emergency Response Guide for Sodium Cyanide provides the storage requirements for sodium cyanide. Solid sodium cyanide is usually stored and transported in Composite Intermediate Bulk Containers (IBCs) that can hold between 800 and 1100 kilograms. The sodium cyanide is packed into a single-use woven polypropylene bulk bag, which is hermetically sealed within a polyethylene bag that lines the interior of the wooden IBC. This entire package (the composite IBC) has been thoroughly tested and approved according to the United Nations Recommendations for the Transport of Dangerous Goods, Model Regulations (Orica, 2022). As per the approval conditions, the sodium cyanide composite IBCs can only be transported inside a sealed 20-foot general-purpose shipping container. The sodium cyanide must stay within the shipping container throughout all stages of its distribution and can only be unpacked at the mine site.

Additionally, solid sodium cyanide can be transported in specially designed and constructed bulk sparge isotank containers. These containers can hold 20-24 tonnes of bulk solid cyanide. These isotanks are designed, built, and approved to international standards in line with the IMDG Code, making them suitable for transport by road, rail, and sea (Orica, 2022).

As per Orica's Emergency Response Guide for Sodium Cyanide, sodium cyanide should be stored in a dry, cool, and well-ventilated area, secured and under surveillance. Access to the storage area and the product should be limited to authorised personnel who have been trained in cyanide hazards.

Bulk sparge isotainers and shipping containers containing composite IBCs are placarded with and emergency information panel (EIP) detailing the proper shipping name, dangerous goods class number, UN number, HAZCHEM Code and emergency contact information. Containers are placarded with the environmentally hazardous substance markings (United Nations, 2021). Product labels are provided on the side of the IBC that allows forklift access via the pallet base. IBCs are placed into shipping containers so that the label is facing outwards.

Orica's Sodium Cyanide Transport Management Plan (Orica, 2024) stipulates that agents, distributors, and transport companies are obligated to ensure compliance with all legal requirements related to the transport and storage of sodium cyanide. They are also tasked with notifying Orica of any violations or breaches of these legal requirements.

Swire operations personnel provide the vessel's Master with copies of the Emergency Information, Dangerous Goods manifest (including stowage plan), Packaging Certificates and the *Multimodal Dangerous Goods Form* for each hazardous cargo transport units loaded onto the ship at the port (WSP Australia Pty Ltd, 2023).

Transport Practice 3.1: Prepare detailed emergency response plans for potential cyanide releases

Orica has developed the Emergency Response Guide for Sodium Cyanide (Orica, 2022). This guide stipulates that the first responders should immediately get in touch with trained personnel, such as local site management or emergency services, to establish a basic command structure for managing the situation and providing the necessary emergency response. This includes alerting others in the immediate vicinity of the spill, barricading the area if necessary to prevent exposure, and documenting key information about the scene (e.g.,, location, what happened, who is involved).

After these initial steps, first responders will need to apply their knowledge specific to sodium cyanide to effectively manage casualties, provide appropriate medical treatment, and carry out safe and proper product recovery, site remediation, and decontamination activities.

According to Orica's Transport Management Plan (Orica, 2024), the emergency response plan should cover the entire delivery route. Orica's responsibilities are limited to the aspects of supply for which it is contractually accountable. Agents, distributors, and transport companies must have an appropriate emergency response plan to handle any sodium cyanide incidents within their contractual responsibilities.

The EmS Guide provides guidance on Emergency Response Procedures for Ships Carrying Dangerous Goods, including the Emergency Schedules (EmS), to be followed in case of incidents involving dangerous substances, materials or articles, or harmful substances (marine pollutants). This is regulated under the International Maritime Dangerous Goods Code (IMDG Code) which Swire subscribes to (IMO, 2024).

Swire operations personnel provide the vessel's Master with copies of the Emergency Information, Dangerous Goods manifest (including stowage plan), Packaging Certificates and the Multimodal Dangerous Goods Form for each hazardous cargo transport units loaded onto the ship at the port (WSP Australia Pty Ltd, 2023).

Conclusion

Based on the evidence reviewed, this due diligence did not find significant issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work. Instead, it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

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A16 Toll Shipping

12 March 2024

20360521-Carrier- 015. RevA

Author: Lilly Kelly Approved: Rudi Seebach

Carrier due diligence executive summary

WSP conducted a due diligence of Toll Shipping (Toll) during March 2024 on behalf of Orica Australia Pty Ltd (Orica). The assessment was reviewed by Rudi Seebach who meets the ICMI requirements for a Transport Technical Specialist. The following items, as detailed in the ICMI's Auditor Guidance for Use of Cyanide Transportation Verification Protocol (ICMI, 2021), were addressed within the due diligence:

- Transport Practice 1.1 (Questions 1-4 and 6)
- Transport Practice 1.5 (Question 1, Items g-i)
- Transport Practice 1.6
- Transport Practice 2.1
- Transport Practice 3.1.

The ICMI's Auditor Guidance for Use of Cyanide Transportation Verification Protocol (ICMI, 2021) was used to conduct the due diligence assessment. It was not possible during this due diligence to physically inspect operations, as such the review was based on information obtained from previous due diligence reviews, ICMI audit reports and publicly available online information. Based on the evidence reviewed, this due diligence did not find issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance of for future work; rather it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

Overview of Toll

On 1 September 2021 the Toll Global Express business was sold to Allegro Funds. They now have dual headquarters in Melbourne and Singapore and retain the Toll brand. Toll has 20,000 team members and has been operating for more than 130 years. They have more than 20,000 customers worldwide with 500 sites in 26 markets, and a forwarding network spanning 150 countries (Toll, 2022a).

Toll offers transport via ocean, air, road, and rail. They have a network of sites throughout the world to give them a global reach across and have broken them into three categories Asia Pacific, EMEA (Europe, Middle East and Africas), and Americas (Toll, 2024a). Toll has 2 million square metres of warehouse space and 13000 fleet and equipment in Asia Pacific alone (Toll, 2024a). They offer services in Transportation, Supply Chain & Logistics, and Industries and aim to reach net-zero emissions by 2050. Toll can execute customers' direct contracts with shipping lines as they cover bookings/pre-bookings, shipment monitoring, and pre/on-carriage management, even if the customers directly nominate the carriers (Toll, 2024b). Services that Toll offers include:

- Cross docking for full and partial loads
- Warehousing
- Distribution
- Pick and pack services
- Multimodal transport services including road, air, and sea

ICMC transport verification protocol assessment

Transport Practice 1.1: Select cyanide transport routes to minimise the potential for accidents and releases

Orica procedure “Selection of Transport Routes Transportation of Sodium Cyanide to Customer Sites or Stock Points” (Orica, 2024a) aims to minimise the risk associated with the transportation of sodium cyanide while maintaining a safe, reliable, efficient, and cost-effective delivery system to customer sites and Orica stock points throughout the world. The procedure applies to the selection of delivery routes for Orica sodium cyanide and states that the “selection of route(s) is to be affected by the overall assessment of the risks associated with the utilisation of such route, taking into particular consideration likelihood of an incident occurring and the consequence of such an incident” (Orica, 2024a). This procedure is applicable to all routes used for the transportation of Orica sodium cyanide as well as to Orica’s contracted transportation agencies.

Orica’s “Route Conditions” procedure is used to assist the selection of cyanide transport routes when the original route cannot be used to minimise potential for accidents and releases. The procedure’s intent is “to ensure that relevant feedback from transportation agencies relating to routes utilised for the movement of sodium cyanide is provided through to Orica for the appropriate assessment and follow on actions, as appropriate” (Orica, 2024d). Alteration to chosen route conditions are to be advised by the transportation agency through to the regional Orica Head of Supply, or their delegate, where the change is being implemented. Possible alternatives are then assessed by Orica Head of Supply or their delegate and passed through to the Health, Safety and Environment (HS&E) Officer for update of the applicable route assessment.

An export or international route will include the following:

- Orica production, packaging, and despatch
- Road and rail transportation to port
- International shipping to destination port
- Road transportation to customer (mining operation).

In some instances, sodium cyanide shipments are unloaded at terminals en route to its final destination. This is known as trans-shipping and involves a temporary set down within a port facility before loading onto another vessel for continuation of the delivery. It is at the discretion of Toll to determine when and where this occurs.

The IMDG Code was given mandatory status under the Safety of Life at Sea (SOLAS) convention in 2004 (IMO, 2024). Toll must conduct itself under this code and this extends to the selection of terminals used for trans shipping.

Transport Practice 1.5: Follow international standards for transportation of cyanide by sea

Orica’s manufacturing facility and transfer stations are ICMC certified (Orica, 2024c). Orica’s sodium cyanide is packaged and transported in accordance with the Australian Dangerous Goods (ADG) Code and the IMDG Code (Orica, 2014a), thereby meeting the international standards required for the transportation of dangerous goods by sea.

Orica procedure “Carrier Assessment” provides the framework for ensuring that carriers and their contractors are assessed at regular intervals to ensure that, amongst others, storage, safety, security, maintenance, and emergency response standards are being maintained (Orica, 2024b).

Carriers are required to provide manifest documentation to the destination port to satisfy local customs regulations and the requirements of the IMDG Code. This documentation contains a list of the cargo types and, in the case of sodium cyanide and any other hazardous cargo the quantity, unique packaging numbers, stowage reference and emergency response procedures.

Toll states in their Compliance Policy that their management systems are designed to address the specific business requirements which includes industry-based accreditations for dangerous goods (Toll, 2020). Their systems include legislative requirements such as ones for dangerous and hazardous goods and any additional standards the customer requires.

g) Does the ship carrying the cyanide have a list or manifest identifying the presence and location of the cyanide or a detailed stowage plan including this information, as required under Section 5.4.3.1 of the DG Code?

Orica's manufacturing facility and transfer stations are ICMC certified, sodium cyanide is packaged and transported in accordance with international regulatory standards, such as the United Nations Recommendation on the Transport of Dangerous Goods Model Regulations (United Nations, 2021) and National Codes of Practice such as the Australian Code for the Transport of Dangerous Goods by Road or Rail (NTC, 2022) thereby meeting the requirements of the political jurisdictions through which the loads will pass.

According to Section 5.4 of the ADG Code, Chapter 5.4 of UN22 (United Nations, 2021) outlines the necessary documentation for international, intermodal shipping. As per section 5.4.1.1.1 of this report, it is the responsibility of the consignor, who is offering dangerous goods for transport, to provide the carrier with relevant information about those goods. This information can be supplied via a dangerous goods transport document or, if the carrier agrees, through another method (United Nations, 2021).

In line with International Maritime Dangerous Goods (IMDG) Code, Orica complete a document known as the Multimodal Dangerous Goods Form for the transport of dangerous goods (AMSA, n.d). This form complies with the requirements of SOLAS 74, Chapter VII, Regulation 4 and The International Convention for the Prevention of Pollution from Ships (MARPOL) 73/78, Annex III, Regulation 4 (ICMI, 2021). It includes a container packaging certificate that meets the requirements of Section 5.4.2 of the IMDG Code. Along with this form, additional documentation, in line with part 5 of the ADG Code (NTC, 2022), containing a list of the cargo types, and in the case of sodium cyanide and any other hazardous cargo, the quantity, unique packaging numbers, stowage reference and emergency response procedures should be provided to the carrier. The documentation provided, including Dangerous Goods manifest (including stowage plan) and Packaging Certificates for each container ensure that adequate information is available to identify the correct stowage and separation of dangerous goods.

Upon arrival at the port, the ship's master is provided with a copy of this form. This information then determines the placement and segregation of the container on the vessel and handling through trans-shipment ports, if applicable.

Toll requires that all contractors are checked by Toll for dangerous goods compliance prior to engagement as well as on a regular basis (Toll Group, 2022). Their policy includes having documented procedures, checklists and review systems in place and that all activities involving dangerous goods are administered to the highest level required. Toll's Dangerous Good's compliance policy ensures that they are compliant with IMDG code.

Does the ship carrying the cyanide have cyanide emergency response information, as required under Section 5.4.3.2 of the DG Code?

As per Section 5.4 of the ADG Code, Chapter 5.4 of UN22 (United Nations, 2021) details the required documentation for international, multimodal transport. Section 5.4.3 stipulates that emergency response information must be readily available at all times. This information should be kept separate from the dangerous goods packages and be immediately accessible in case of an accident or incident. This includes the provision of a separate document like a safety data sheet and a separate document for 'Emergency Procedures for Ships Carrying Dangerous Goods', which should be used in conjunction with the transport document (United Nations, 2021).

Orica have developed the Cyanide Emergency Response Guide to comply fully with obligations as a supplier of cyanide (Orica, 2022) and provides the 'External Chemical Emergency Form' template for Carriers.

Emergency response procedures for ships carrying dangerous goods, including the emergency schedules to be followed in case of incidents involving dangerous substances, materials or articles, or harmful substances (marine pollutants), is regulated under the IMDG Code. In accordance with the Code, all ships, and the companies responsible for their operation, are required to maintain a Safety Management System (SMS). Within the SMS, procedures for responding to potential shipboard emergencies are required (IMO, 2024).

In line with the Code, manifests are to be provided to the vessel Master and contain emergency response information. The *Multimodal Dangerous Goods Form* also includes emergency response information.

Does the ship comply with the stowage and separation requirements of Part 7 of the DG Code?

According to Section 7.1.1.3 of the United Nations (UN) guidelines (United Nations, 2021), a carrier is prohibited from accepting dangerous goods for transport unless the supplier, in this case Orica, provides a copy of the dangerous goods transport documentation, including in electronic form, along with any other necessary documents. The segregation requirements for dangerous goods are detailed in Section 7.1.2.

The carrier can establish the segregation requirements as outlined in the UN guidelines based on the Multimodal Dangerous Goods Form (AMSA, n.d) provided by Orica, along with the additional required labelling and documentation.

In Orica's Emergency Response Guide (Orica, 2022), the conditions for storing cyanide are specified in Section 2.3 'Methods of Transport'. It is also stated that these conditions should comply with the Australian Standard AS/NZS 4452:1997, which is related to the Storage and Handling of Toxic Substances.

Toll ensures that all activities involving dangerous goods and hazardous chemicals are administered to the highest level required by the relevant legislation and that all applicable licences and permissions are in place for their employees, contractors, sites and equipment involved (Toll Group, 2022). Toll's Dangerous Goods Policy also ensures all employees and contractors engaged by Toll, involved in the storing, handling or transportation of dangerous goods or hazardous chemicals, are trained and provided with information, necessary to minimise the risks associated with those products (Toll Group, 2022).

Transport Practice 1.6: Track cyanide shipments to prevent losses during transport

Toll has multiple methods available for clients to track their shipments. Ocean freight uses Toll iCON for 24/7 track and trace and end-to-end visibility (Toll iCON, 2024). Toll also has a Find My Shipment service available online for clients. Toll offers ocean supply chain services which are end-to-end management solutions. The iCON platform offers many services including document management, port diversification, freight consolidation, and value-added services such as repackaging and labelling at container freight stations (Toll, 2024b).

Transport Practice 2.1: Store cyanide in a manner that minimises the potential for accidental releases

Orica's Emergency Response Guide for Sodium Cyanide provides the storage requirements for Cyanide. Solid sodium cyanide is usually stored and transported in Composite Intermediate Bulk Containers (IBCs) that can hold between 800 and 1100 kilograms. The sodium cyanide is packed into a single-use woven polypropylene bulk bag, which is hermetically sealed within a polyethylene bag that lines the interior of the wooden IBC. This entire package (the composite IBC) has been thoroughly tested and approved according to the United Nations Recommendations for the Transport of Dangerous Goods, Model Regulations (Orica, 2022). As per the approval conditions, the sodium cyanide composite IBCs can only be transported inside a sealed 20-foot general-purpose shipping container. The sodium cyanide must stay within the shipping container throughout all stages of its distribution and can only be unpacked at the mine site.

Additionally, solid sodium cyanide can be transported in specially designed and constructed bulk sparge isotank containers. These containers can hold 20-24 tonnes of bulk solid cyanide. These isotanks are designed, built, and approved to international standards in line with the IMDG Code, making them suitable for transport by road, rail, and sea (Orica, 2022).

As per Orica's Emergency Response Guide for Sodium Cyanide, sodium cyanide should be stored in a dry, cool, and well-ventilated area, secured and under surveillance. Access to the storage area and the product should be limited to authorised personnel who have been trained in cyanide hazards.

Bulk sparge isotainers and shipping containers containing composite IBCs are placarded with and emergency information panel (EIP) detailing the proper shipping name, dangerous goods class number, UN number, HAZCHEM Code and emergency contact information. Containers are placarded with the environmentally hazardous substance markings (United Nations, 2021). Product labels are provided on the side of the IBC that allows forklift access via the pallet base. IBCs are placed into shipping containers so that the label is facing outwards.

Orica's Sodium Cyanide Transport Management Plan (Orica, 2024) stipulates that agents, distributors, and transport companies are obligated to ensure compliance with all legal requirements related to the transport and storage of sodium cyanide. They are also tasked with notifying Orica of any violations or breaches of these legal requirements.

Toll's Dangerous Goods Policy and Health and Safety Policy requires that everyone who works at Toll in any capacity complies with all legal, regulatory and other requirements. They focus on providing the necessary training, information, and resources, required for overall safety and part of the dangerous goods training involves handling and storage (Toll Group, 2022). Toll requires consignments to be checked for compliance with the relevant dangerous goods legislation prior to acceptance of the goods by Toll.

Transport Practice 3.1: Prepare detailed emergency response plans for potential cyanide releases

Orica has developed the Emergency Response Guide for Sodium Cyanide (Orica, 2022). This guide stipulates that the first responders should immediately get in touch with trained personnel, such as local site management or emergency services, to establish a basic command structure for managing the situation and providing the necessary emergency response. This includes alerting others in the immediate vicinity of the spill, barricading the area if necessary to prevent exposure, and documenting key information about the scene (e.g.,, location, what happened, who is involved).

After these initial steps, first responders will need to apply their knowledge specific to sodium cyanide to effectively manage casualties, provide appropriate medical treatment, and carry out safe and proper product recovery, site remediation, and decontamination activities.

According to Orica’s Transport Management Plan (Orica, 2024), the emergency response plan should cover the entire delivery route. While Orica’s responsibilities are limited to the aspects of supply for which it is contractually accountable, agents, distributors, and transport companies must have an appropriate emergency response plan to handle any sodium cyanide incidents within their contractual responsibilities.

The EmS Guide provides guidance on Emergency Response Procedures for Ships Carrying Dangerous Goods, including the Emergency Schedules (EmS), to be followed in case of incidents involving dangerous substances, materials or articles, or harmful substances (marine pollutants). This is regulated under the International Maritime Dangerous Goods Code (IMDG Code) which Toll subscribes to (IMO, 2024).

Conclusion

Based on the evidence reviewed, this due diligence did not find significant issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work. Instead, it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

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A17 U&D Ocean Shipping Co. Ltd

22 March 2024

20360521-Carrier- 016. RevA

Author: Megan Wood   Approved: Rudi Seebach

Carrier due diligence executive summary

WSP conducted a due diligence of U&D Ocean Shipping Co. Ltd (U&D) during March 2024 on behalf of Orica Australia Pty Ltd (Orica).

The assessment was reviewed by Rudi Seebach who meets the ICMI requirements for a Transport Technical Specialist.

The following items, as detailed in the ICMI's Auditor Guidance for Use of Cyanide Transportation Verification Protocol (ICMI, 2021), were addressed within the due diligence:

- Transport Practice 1.1 (Questions 1-4 and 6)
- Transport Practice 1.5 (Question 1, Items g-i)
- Transport Practice 1.6
- Transport Practice 2.1
- Transport Practice 3.1.

The ICMI's Auditor Guidance for Use of Cyanide Transportation Verification Protocol (ICMI, 2021) was used to conduct the due diligence assessment. It was not possible during this due diligence to physically inspect operations, as such the review was based on information obtained from previous due diligence reviews, ICMI audit reports and publicly available online information. Based on the evidence reviewed, this due diligence did not find issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance of for future work; rather it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

Overview of U&D

U&D Ocean Shipping Co is a private Hong Kong company established in November 2020 (HK Company Directory, 2024). The company was listed as the owner of the general cargo vessel "DRACO FAITH" in December 2020 (Cargo Vessels International, 2022).

The Draco Faith (IMO number 9574377, and Maritime Mobile Service Identity (MMSI) 355760000) has a carrying capacity of 9,023 t (dry weight) and/or up to 630 Twenty-foot Equivalent Units (TEU). The vessel was built by the Dongfeng Ship Industry, Chongqing, China (Marine Man Ship Management, 2024).

The Draco Faith is considered a generalised dry cargo carrying vessel, equipped with container carrying capacity, it was built in 2010. The Draco Faith sails under the flag of Panama with the classifications of CSA5/5, general dry cargo, ice class B-CSM, MCC. The dimensions of the vessel are 122 m long, and 19.8 m wide. The vessel has a total hold/tank capacity of 13,350 Cubic Metres (CBM) (Marine Man Ship Management, 2021).

ICMC transport verification protocol assessment

Transport Practice 1.1: Select cyanide transport routes to minimise the potential for accidents and releases

Orica procedure "Selection of Transport Routes Transportation of Sodium Cyanide to Customer Sites or Stock Points" (Orica, 2024a) aims to minimise the risk associated with the transportation of sodium cyanide while maintaining a safe, reliable, efficient, and cost-effective delivery system to customer sites and Orica stock points throughout the world. The procedure applies to the selection of delivery routes for Orica sodium cyanide and states that the "selection of route(s) is to be affected by the overall assessment of the risks associated with the utilisation of such route, taking into particular consideration likelihood of an incident occurring and the consequence of such an incident" (Orica, 2024a). This procedure is applicable to all routes used for the transportation of Orica sodium cyanide as well as to Orica's contracted transportation agencies.

Orica's "Route Conditions" procedure is used to assist the selection of cyanide transport routes when the original route cannot be used to minimise potential for accidents and releases. The procedure's intent is "to ensure that relevant feedback from transportation agencies relating to routes utilised for the movement of sodium cyanide is provided through to Orica for the appropriate assessment and follow on actions, as appropriate" (Orica, 2024d). Alteration to chosen route conditions are to be advised by the transportation agency through to the regional Orica Head of Supply, or their delegate, where the change is being implemented. Possible alternatives are then assessed by Orica Head of Supply or their delegate and passed through to the Health, Safety and Environment (HS&E) Officer for update of the applicable route assessment.

The Draco Faith, operating under U&D Ocean Shipping Co. Ltd provides a carrier service for the international shipping of containerised cargo (WSP Australia Pty Ltd, 2023). Shipping containers holding solid sodium cyanide are placed and secured on the Draco Faith at the loading port by the stevedoring company and removed at the Port of destination by the stevedoring company at that port.

An export or international route will include the following:

- Orica production, packaging, and despatch
- Road and rail transportation to port
- International shipping to destination port
- Road transportation to customer (mining operation).

In some instances, sodium cyanide shipments are unloaded at terminals en route to its final destination. This is known as trans shipping and involves a temporary set down within a port facility before loading onto another vessel for continuation of the delivery. It is at the discretion of U&D Ocean Shipping to determine when and where this occurs. The International Maritime Dangerous Goods (IMDG) Code was given mandatory status under the Safety of Life at Sea (SOLAS) convention in 2004 (IMO, 2024). U & D must conduct itself under this code and this extends to the selection of terminals used for trans shipping.

Transport Practice 1.5: Follow international standards for transportation of cyanide by sea

Orica's manufacturing facility and transfer stations are ICMC certified (Orica, 2024c). Orica's sodium cyanide is packaged and transported in accordance with the Australian Dangerous Goods (ADG) Code and the IMDG Code (Orica, 2014a), thereby meeting the international standards required for the transportation of dangerous goods by sea.

Orica procedure "Carrier Assessment" provides the framework for ensuring that carriers and their contractors are assessed at regular intervals to ensure that, amongst others, storage, safety, security, maintenance, and emergency response standards are being maintained (Orica, 2024b).

Carriers are required to provide manifest documentation to the destination port to satisfy local customs regulations and the requirements of the IMDG Code (WSP Australia Pty Ltd, 2023). This documentation contains a list of the cargo types and, in the case of sodium cyanide and any other hazardous cargo the quantity, unique packaging numbers, stowage reference and emergency response procedures.

g) Does the ship carrying the cyanide have a list or manifest identifying the presence and location of the cyanide or a detailed stowage plan including this information, as required under Section 5.4.3.1 of the DG Code?

Orica's manufacturing facility and transfer stations are ICMC certified, sodium cyanide is packaged and transported in accordance with international regulatory standards, such as the United Nations Recommendation on the Transport of Dangerous Goods Model Regulations (United Nations, 2021) and National Codes of Practice such as the Australian Code for the Transport of Dangerous Goods by Road or Rail (NTC, 2022) thereby meeting the requirements of the political jurisdictions through which the loads will pass.

According to Section 5.4 of the ADG Code, Chapter 5.4 of UN22 (United Nations, 2021) outlines the necessary documentation for international, intermodal shipping. As per section 5.4.1.1.1 of this report, it is the responsibility of the consignor, who is offering dangerous goods for transport, to provide the carrier with relevant information about those goods. This information can be supplied via a dangerous goods transport document or, if the carrier agrees, through another method (United Nations, 2021).

In line with IMDG Code, Orica completes a document known as the Multimodal Dangerous Goods Form for the transport of dangerous goods (AMSA, n.d). This form complies with the requirements of SOLAS 74, Chapter VII, Regulation 4 and The International Convention for the Prevention of Pollution from Ships (MARPOL) 73/78, Annex III, Regulation 4 (ICMI, 2021). It includes a container packaging certificate that meets the requirements of Section 5.4.2 of the IMDG Code. Along with this form, additional documentation, in line with part 5 of the ADG Code (NTC, 2022), containing a list of the cargo types, and in the case of sodium cyanide and any other hazardous cargo, the quantity, unique packaging numbers, stowage reference and emergency response procedures should be provided to the carrier. The documentation provided, including Dangerous Goods manifest (including stowage plan) and Packaging Certificates for each container ensure that adequate information is available to identify the correct stowage and separation of dangerous goods.

Upon arrival at the port, the ship's master is provided with a copy of this form. This information then determines the placement and segregation of the container on the vessel and handling through trans shipment ports, if applicable.

Does the ship carrying the cyanide have cyanide emergency response information, as required under Section 5.4.3.2 of the DG Code?

As per Section 5.4 of the ADG Code, Chapter 5.4 of UN22 (United Nations, 2021) details the required documentation for international, multimodal transport. Section 5.4.3 stipulates that emergency response information must be readily available at all times. This information should be kept separate from the dangerous goods packages and be immediately accessible in case of an accident or incident. This includes the provision of a separate document like a safety data sheet and a separate document for 'Emergency Procedures for Ships Carrying Dangerous Goods', which should be used in conjunction with the transport document (United Nations, 2021).

Orica have developed the Cyanide Emergency Response Guide to comply fully with obligations as a supplier of cyanide (Orica, 2022) and provides the 'External Chemical Emergency Form' template for Carriers.

Emergency response procedures for ships carrying dangerous goods, including the emergency schedules to be followed in case of incidents involving dangerous substances, materials or articles, or harmful substances (marine pollutants), is regulated under the IMDG Code. In accordance with the Code, all ships, and the companies responsible for their operation, are required to maintain a Safety Management System (SMS). Within the SMS, procedures for responding to potential shipboard emergencies are required (IMO, 2024).

Does the ship comply with the stowage and separation requirements of Part 7 of the DG Code?

According to Section 7.1.1.3 of the United Nations (UN) guidelines (United Nations, 2021), a carrier is prohibited from accepting dangerous goods for transport unless the supplier, in this case Orica, provides a copy of the dangerous goods transport documentation, including in electronic form, along with any other necessary documents. The segregation requirements for dangerous goods are detailed in Section 7.1.2.

The carrier can establish the segregation requirements as outlined in the UN guidelines based on the Multimodal Dangerous Goods Form (AMSA, n.d) provided by Orica, along with the additional required labelling and documentation.

In Orica's Emergency Response Guide (Orica, 2022), the conditions for storing cyanide are specified in Section 2.3 'Methods of Transport'. It is also stated that these conditions should comply with the Australian Standard AS/NZS 4452:1997, which is related to the Storage and Handling of Toxic Substances.

Transport Practice 1.6: Track cyanide shipments to prevent losses during transport

Chain of custody documentation is used by shipping companies to prevent the loss of cargo during shipment (WSP Australia Pty Ltd, 2023). This documentation includes the vessel manifest which identifies the location and content of each container on the vessel along with packing certificates and multimodal dangerous goods forms.

As a SOLAS signatory nation, it is obligated to transmit Long-Range Identification and Tracking (LRIT) information. This system provides global identification and tracking of ships for security, safety and protection of marine environment (IMO, 2024).

Transport Practice 2.1: Store cyanide in a manner that minimises the potential for accidental releases

Orica's Emergency Response Guide for Sodium Cyanide provides the storage requirements for sodium cyanide. Solid sodium cyanide is usually stored and transported in Composite Intermediate Bulk Containers (IBCs) that can hold between 800 and 1100 kilograms. The sodium cyanide is packed into a single-use woven polypropylene bulk bag, which is hermetically sealed within a polyethylene bag that lines the interior of the wooden IBC. This entire package (the composite IBC) has been thoroughly tested and approved according to the United Nations Recommendations for the Transport of Dangerous Goods, Model Regulations (Orica, 2022). As per the approval conditions, the sodium cyanide composite IBCs can only be transported inside a sealed 20-foot general-purpose shipping container. The sodium cyanide must stay within the shipping container throughout all stages of its distribution and can only be unpacked at the mine site.

Additionally, solid sodium cyanide can be transported in specially designed and constructed bulk sparge isotank containers. These containers can hold 20-24 tonnes of bulk solid cyanide. These isotanks are designed, built, and approved to international standards in line with the IMDG Code, making them suitable for transport by road, rail, and sea (Orica, 2022).

As per Orica's Emergency Response Guide for Sodium Cyanide, sodium cyanide should be stored in a dry, cool, and well-ventilated area, secured and under surveillance. Access to the storage area and the product should be limited to authorised personnel who have been trained in cyanide hazards.

Bulk sparge isotainers and shipping containers containing composite IBCs are placarded with and emergency information panel (EIP) detailing the proper shipping name, dangerous goods class number, UN number, HAZCHEM Code and emergency contact information. Containers are placarded with the environmentally hazardous substance markings (United Nations, 2021). Product labels are provided on the side of the IBC that allows forklift access via the pallet base. IBCs are placed into shipping containers so that the label is facing outwards.

Orica's Sodium Cyanide Transport Management Plan (Orica, 2024) stipulates that agents, distributors, and transport companies are obligated to ensure compliance with all legal requirements related to the transport and storage of sodium cyanide. They are also tasked with notifying Orica of any violations or breaches of these legal requirements.

In accordance with the International Safety Management (ISM) Code, U&D Ocean Shipping Co. Ltd must develop, implement and maintain a Security Safety policy and management system to ensure safe operation of the ships and protection of the environment in compliance with the relevant international and flag state legislation. This includes procedures for reporting accidents, or to prepare for and respond to emergency situations.

Transport Practice 3.1: Prepare detailed emergency response plans for potential cyanide releases

Orica has developed the Emergency Response Guide for Sodium Cyanide (Orica, 2022). This guide stipulates that the first responders should immediately get in touch with trained personnel, such as local site management or emergency services, to establish a basic command structure for managing the situation and providing the necessary emergency response. This includes alerting others in the immediate vicinity of the spill, barricading the area if necessary to prevent exposure, and documenting key information about the scene (e.g.,, location, what happened, who is involved).

After these initial steps, first responders will need to apply their knowledge specific to sodium cyanide to effectively manage casualties, provide appropriate medical treatment, and carry out safe and proper product recovery, site remediation, and decontamination activities.

According to Orica's Transport Management Plan (Orica, 2024), the emergency response plan should cover the entire delivery route. Orica's responsibilities are limited to the aspects of supply for which it is contractually accountable. Agents, distributors, and transport companies must have an appropriate emergency response plan to handle any sodium cyanide incidents within their contractual responsibilities.

The EmS Guide provides guidance on Emergency Response Procedures for Ships Carrying Dangerous Goods, including the Emergency Schedules (EmS), to be followed in case of incidents involving dangerous substances, materials or articles, or harmful substances (marine pollutants). This is regulated under the International Maritime Dangerous Goods Code (IMDG Code) which U & D subscribes to (IMO, 2024).

The Panama Canal Authority has developed and implemented the Panama Canal Ship Oil Pollution Emergency Plan (PCSOPEP) which became effective in January 2005. Under this plan, all vessels reporting to ports within Panama are required to present an emergency response plan developed in accordance with the requirements of IMO regulations and must include information on a level of response capabilities, emergency response and spill containment equipment and other oil pollution, or hazardous substances, prevention measures and spill notification procedures (ACP, 2024).

Conclusion

Based on the evidence reviewed, this due diligence did not find significant issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work. Instead, it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

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A18 Langeoog, MLB Manfred

22 March 2024

20360521-Carrier- 017. RevA

Author: Lilly Kelly

Approved: Rudi Seebach

Carrier due diligence executive summary

WSP conducted a due diligence of MLB Manfred Lauterjung Befrachtung (MLB Manfred) during March 2024 on behalf of Orica Australia Pty Ltd (Orica).

The assessment was reviewed by Rudi Seebach who meets the ICMI requirements for a Transport Technical Specialist.

The following items, as detailed in the ICMI's Auditor Guidance for Use of Cyanide Transportation Verification Protocol (ICMI, 2021), were addressed within the due diligence:

- Transport Practice 1.1 (Questions 1-4 and 6)
- Transport Practice 1.5 (Question 1, Items g-i)
- Transport Practice 1.6
- Transport Practice 2.1
- Transport Practice 3.1.

The ICMI's Auditor Guidance for Use of Cyanide Transportation Verification Protocol (ICMI, 2021) was used to conduct the due diligence assessment. It was not possible during this due diligence to physically inspect operations, as such the review was based on information obtained from previous due diligence reviews, ICMI audit reports and publicly available online information. Based on the evidence reviewed, this due diligence did not find issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance of for future work; rather it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

Overview of MLB Manfred

Founded in 1979, MLB Manfred is responsible for the commercial employment and chartering of the Lauterjung Fleet as well as affiliate owners (RML Shipping Group, N.D.). The operations team represents the connecting link between owners, vessels, charterers and port agencies. MLB Manfred has global branch offices in Bilbao, Houston and Dubai. MLB Manfred currently operates 21 vessels of which are Coasters, MPPs and Bulk Carriers (RML Shipping Group, N.D.b). MLB Manfred is part of Reederei M. Lauterjung Shipping Group.

The Langeoog, bearing International Maritime Organization (IMO) number 9506136 was built in 2013. The Langeoog operates under the flag of Antigua and Barbuda and is owned by MLB Manfred (MLB, N.D.). The overall length and width of the vessel is approximately 108 m by 17 m respectively (Marine Traffic, 2024).The capacity of the ship is 7.310 m^3 (MLB, N.D.).

The vessel is a multi-purpose cargo carrier fitted with tween decks and grain bulkheads, there are two hydraulic single boom cranes (rated at 60 t at 19m and 45 t at 26m) (WSP Australia Pty Ltd, 2023).

ICMC transport verification protocol assessment

Transport Practice 1.1: Select cyanide transport routes to minimise the potential for accidents and releases

Orica procedure "Selection of Transport Routes Transportation of Sodium Cyanide to Customer Sites or Stock Points" (Orica, 2024a) aims to minimise the risk associated with the transportation of sodium cyanide while maintaining a safe, reliable, efficient, and cost-effective delivery system to customer sites and Orica stock points throughout the world. The procedure applies to the selection of delivery routes for Orica sodium cyanide and states that the "selection of route(s) is to be affected by the overall assessment of the risks associated with the utilisation of such route, taking into particular consideration likelihood of an incident occurring and the consequence of such an incident" (Orica, 2024a). This procedure is applicable to all routes used for the transportation of Orica sodium cyanide as well as to Orica's contracted transportation agencies.

Orica's "Route Conditions" procedure is used to assist the selection of cyanide transport routes when the original route cannot be used to minimise potential for accidents and releases. The procedure's intent is "to ensure that relevant feedback from transportation agencies relating to routes utilised for the movement of sodium cyanide is provided through to Orica for the appropriate assessment and follow on actions, as appropriate" (Orica, 2024d). Alteration to chosen route conditions are to be advised by the transportation agency through to the regional Orica Head of Supply, or their delegate, where the change is being implemented. Possible alternatives are then assessed by Orica Head of Supply or their delegate and passed through to the Health, Safety and Environment (HS&E) Officer for update of the applicable route assessment.

An export or international route will include the following:

- Orica production, packaging, and despatch
- Road and rail transportation to port
- International shipping to destination port
- Road transportation to customer (mining operation).

In some instances, sodium cyanide shipments are unloaded at terminals en route to its destination. This is known as trans-shipping and involves a temporary set down within a port facility before loading onto another vessel for continuation of the delivery. It is at the discretion of MLB Manfred to determine when and where this occurs.

The International Maritime Dangerous Goods (IMDG) Code was given mandatory status under the Safety of Life at Sea (SOLAS) convention in 2004 (IMO, 2024). MLB Manfred must conduct itself under this code and this extends to the selection of terminals used for trans-shipping.

The Langeoog, as operated by MLB Manfred, is a carrier service providing international shipping of containers on a fleet of their container vessels. Containers containing solid sodium cyanide are placed and secured on their vessels at the loading port by the stevedoring company and removed at the Port of destination by the stevedoring company at that port (WSP Australia Pty Ltd, 2023).

Transport Practice 1.5: Follow international standards for transportation of cyanide by sea

Orica's manufacturing facility and transfer stations are ICMC certified (Orica, 2024c). Orica's sodium cyanide is packaged and transported in accordance with the Australian Dangerous Goods (ADG) Code and the IMDG Code (Orica, 2014a), thereby meeting the international standards required for the transportation of dangerous goods by sea.

Orica procedure "Carrier Assessment" provides the framework for ensuring that carriers and their contractors are assessed at regular intervals to ensure that, amongst others, storage, safety, security, maintenance, and emergency response standards are being maintained (Orica, 2024b).

Carriers are required to provide manifest documentation to the destination port to satisfy local customs regulations and the requirements of the IMDG Code (WSP Australia Pty Ltd, 2023). This documentation contains a list of the cargo types and, in the case of sodium cyanide and any other hazardous cargo the quantity, unique packaging numbers, stowage reference and emergency response procedures.

g) Does the ship carrying the cyanide have a list or manifest identifying the presence and location of the cyanide or a detailed stowage plan including this information, as required under Section 5.4.3.1 of the DG Code?

Orica's manufacturing facility and transfer stations are ICMC certified, sodium cyanide is packaged and transported in accordance with international regulatory standards, such as the United Nations Recommendation on the Transport of Dangerous Goods Model Regulations (United Nations, 2021) and National Codes of Practice such as the Australian Code for the Transport of Dangerous Goods by Road or Rail (NTC, 2022) thereby meeting the requirements of the political jurisdictions through which the loads will pass.

According to Section 5.4 of the ADG Code, Chapter 5.4 of UN22 (United Nations, 2021) outlines the necessary documentation for international, intermodal shipping. As per section 5.4.1.1.1 of this report, it is the responsibility of the consignor, who is offering dangerous goods for transport, to provide the carrier with relevant information about those goods. This information can be supplied via a dangerous goods transport document or, if the carrier agrees, through another method (United Nations, 2021).

In line with IMDG Code, Orica complete a document known as the Multimodal Dangerous Goods Form for the transport of dangerous goods (AMSA, n.d). This form complies with the requirements of SOLAS 74, Chapter VII, Regulation 4 and The International Convention for the Prevention of Pollution from Ships (MARPOL) 73/78, Annex III, Regulation 4 (ICMI, 2021). It includes a container packaging certificate that meets the requirements of Section 5.4.2 of the IMDG Code. Along with this form, additional documentation, in line with part 5 of the ADG Code (NTC, 2022), containing a list of the cargo types, and in the case of sodium cyanide and any other hazardous cargo, the quantity, unique packaging numbers, stowage reference and emergency response procedures should be provided to the carrier. The documentation provided, including Dangerous Goods manifest (including stowage plan) and Packaging Certificates for each container ensure that adequate information is available in order to identify the correct stowage and separation of dangerous goods.

Upon arrival at the port, the ship's master is provided with a copy of this form. This information then determines the placement and segregation of the container on the vessel and handling through trans-shipment ports, if applicable.

h) Does the ship carrying the cyanide have cyanide emergency response information, as required under Section 5.4.3.2 of the DG Code?

As per Section 5.4 of the ADG Code, Chapter 5.4 of UN22 (United Nations, 2021) details the required documentation for international, multimodal transport. Section 5.4.3 stipulates that emergency response information must be readily available at all times. This information should be kept separate from the dangerous goods packages and be immediately accessible in case of an accident or incident. This includes the provision of a separate document like a safety data sheet and a separate document for 'Emergency Procedures for Ships Carrying Dangerous Goods', which should be used in conjunction with the transport document (United Nations, 2021).

Orica have developed the Cyanide Emergency Response Guide to comply fully with obligations as a supplier of cyanide (Orica, 2022) and provides the 'External Chemical Emergency Form' template for Carriers.

Emergency response procedures for ships carrying dangerous goods, including the emergency schedules to be followed in case of incidents involving dangerous substances, materials or articles, or harmful substances (marine pollutants), is regulated under the IMDG Code. In accordance with the Code, all ships, and the companies responsible for their operation, are required to maintain a Safety Management System (SMS). Within the SMS, procedures for responding to potential shipboard emergencies are required (IMO, 2024).

In line with the Code, manifests are to be provided to the vessel Master and contain emergency response information. The *Multimodal Dangerous Goods Form* also includes emergency response information.

i) Does the ship comply with the stowage and separation requirements of Part 7 of the DG Code?

According to Section 7.1.1.3 of the United Nations (UN) guidelines (United Nations, 2021), a carrier is prohibited from accepting dangerous goods for transport unless the supplier, in this case Orica, provides a copy of the dangerous goods transport documentation, including in electronic form, along with any other necessary documents. The segregation requirements for dangerous goods are detailed in Section 7.1.2.

The carrier can establish the segregation requirements as outlined in the UN guidelines based on the Multimodal Dangerous Goods Form (AMSA, n.d) provided by Orica, along with the additional required labelling and documentation.

In Orica's Emergency Response Guide (Orica, 2022), the conditions for storing cyanide are specified in Section 2.3 'Methods of Transport'. It is also stated that these conditions should comply with the Australian Standard AS/NZS 4452:1997, which is related to the Storage and Handling of Toxic Substances.

Transport Practice 1.6: Track cyanide shipments to prevent losses during transport

Under international maritime law, MLB Manfred, it is obligated to transmit Long-Range Identification and Tracking (LRIT) information. This system provides global identification and tracking of ships for security, safety and protection of marine environment (IMO, 2024).

Additionally, chain of custody documentation is used to prevent the loss of cargo during shipment. This documentation includes the vessel manifest and Safety Data Sheets (SDS), which identifies the location and content of each container on the vessel (WSP Australia Pty Ltd, 2023).

Transport Practice 2.1: Store cyanide in a manner that minimises the potential for accidental releases

Orica's Emergency Response Guide for Sodium Cyanide provides the storage requirements for Cyanide. Solid sodium cyanide is usually stored and transported in Composite Intermediate Bulk Containers (IBCs) that can hold between 800 and 1100 kilograms. The sodium cyanide is packed into a single-use woven polypropylene bulk bag, which is hermetically sealed within a polyethylene bag that lines the interior of the wooden IBC. This entire package (the composite IBC) has been thoroughly tested and approved according to the United Nations Recommendations for the Transport of Dangerous Goods, Model Regulations (Orica, 2022). As per the approval conditions, the sodium cyanide composite IBCs can only be transported inside a sealed 20-foot general-purpose shipping container. The sodium cyanide must stay within the shipping container throughout all stages of its distribution and can only be unpacked at the mine site.

Additionally, solid sodium cyanide can be transported in specially designed and constructed bulk sparge isotank containers. These containers can hold 20-24 tonnes of bulk solid cyanide. These isotanks are designed, built, and approved to international standards in line with the IMDG Code, making them suitable for transport by road, rail, and sea (Orica, 2022).

As per Orica's Emergency Response Guide for Sodium Cyanide, sodium cyanide should be stored in a dry, cool, and well-ventilated area, secured and under surveillance. Access to the storage area and the product should be limited to authorised personnel who have been trained in cyanide hazards.

Bulk sparge isotainers and shipping containers containing composite IBCs are placarded with and emergency information panel (EIP) detailing the proper shipping name, dangerous goods class number, UN number, HAZCHEM Code and emergency contact information. Containers are placarded with the environmentally hazardous substance markings (United Nations, 2021). Product labels are provided on the side of the IBC that allows forklift access via the pallet base. IBCs are placed into shipping containers so that the label is facing outwards.

Orica's Sodium Cyanide Transport Management Plan (Orica, 2024) stipulates that agents, distributors, and transport companies are obligated to ensure compliance with all legal requirements related to the transport and storage of sodium cyanide. They are also tasked with notifying Orica of any violations or breaches of these legal requirements.

Transport Practice 3.1: Prepare detailed emergency response plans for potential cyanide releases

Orica has developed the Emergency Response Guide for Sodium Cyanide (Orica, 2022). This guide stipulates that the first responders should immediately get in touch with trained personnel, such as local site management or emergency services, to establish a basic command structure for managing the situation and providing the necessary emergency response. This includes alerting others in the immediate vicinity of the spill, barricading the area if necessary to prevent exposure, and documenting key information about the scene (e.g.,, location, what happened, who is involved).

After these initial steps, first responders will need to apply their knowledge specific to sodium cyanide to effectively manage casualties, provide appropriate medical treatment, and carry out safe and proper product recovery, site remediation, and decontamination activities.

According to Orica's Transport Management Plan (Orica, 2024), the emergency response plan should cover the entire delivery route. While Orica's responsibilities are limited to the aspects of supply for which it is contractually accountable, agents, distributors, and transport companies must have an appropriate emergency response plan to handle any sodium cyanide incidents within their contractual responsibilities.

The EmS Guide provides guidance on Emergency Response Procedures for Ships Carrying Dangerous Goods, including the Emergency Schedules (EmS), to be followed in case of incidents involving dangerous substances, materials or articles, or harmful substances (marine pollutants). This is regulated under the International Maritime Dangerous Goods Code (IMDG Code) which Reederei M Lauterjung subscribes to (IMO, 2024).

Conclusion

Based on the evidence reviewed, this due diligence did not find significant issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work. Instead, it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

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Appendix B

Ports due diligence assessments

Introduction

These reports provide the results of desktop due diligence assessments completed for ports included in Orica Australia Pty Ltd.'s (Orica) Global Marine Supply Chain in accordance with the International Cyanide Management Code (ICMC) for the Manufacture, Transport and Use of Cyanide in the Production of Gold or Silver.

Scope and method

The scope of these desktop due diligences includes the management, interim storage, and emergency response capacity in relation to cyanide transported through the port. A report is provided for each port listed.

As detailed in the International Cyanide Management Institute's (ICMI's) *Auditor Guidance for Use of the Cyanide Transportation Verification Protocol* (Auditor Guidance; ICMI, 2021), the following items are addressed within each assessment:

- Overview of the port facility
- International Cyanide Management Code (ICMC) Transport Verification Protocol Assessment
- Transport Practice 1.1 (Questions 1-4 and 6)
- Transport Practice 1.5 (Question 1)
- Transport Practice 1.6
- Transport Practice 2.1
- Transport Practice 3.1
- Conclusion
- References.

The ICMI's June 2021 version of the *Cyanide Transportation Verification Protocol* (CTPV Protocol; ICMI, 2021), was adopted to guide the Desktop Due Diligence process. The Auditor Guidance (ICMI, 2021) was used to interpret the Cyanide Transport Verification (CTPV) Protocol questions and aid in evaluating the measures taken to meet the Transportation Practices. The assessment was conducted as a desktop process using information obtained from previous due diligence reviews, ICMI audit reports, and publicly available online information.

ICMC transport verification protocol assessment

The ICMI's Auditor Guidance for Use of Cyanide Transportation Verification Protocol, General Guidance states:

> *Except as specifically identified in this Guidance document, the Cyanide Transportation Protocol is not to be used to evaluate transport by rail and ship or management of cyanide at rail terminals and port facilities due to security issues, limited access, and the inability of consignors to affect changes in the operating practices of these transport facilities. Rather than conduct Code audits of these facilities, the consignor must conduct and document due diligence investigations of rail carriers, rail terminals, shipping companies and port facilities that are engaged to handle cyanide shipments, as further discussed below under Transport Practice 1.1. The consignor's due diligence investigation must either be conducted or reviewed by an auditor meeting ICMI requirements for a transport expert, and the auditor must conclude that the due diligence investigation has reasonably evaluated these facilities and that the consignor has, to the extent practical, implemented any necessary management measures.*

B1 Port of Abidjan, Côte d'Ivoire

28 March 2024

PS211281 001. RevA

Author: Megan Wood | Approved: Rudi Seebach

Port due diligence executive summary

WSP Pty Ltd (WSP) conducted a due diligence of the Port of Abidjan, Côte d'Ivoire during March 2024 on behalf of Orica Australia Pty Ltd (Orica).

The assessment was reviewed by Rudi Seebach who meets the International Cyanide Management Institute's (ICMI) requirements for a Transport Technical Specialist.

The following items, as detailed in the ICMI's Auditor Guidance for Use of Cyanide Transportation Verification Protocol (ICMI 2021), were addressed within the due diligence:

- Transport Practice 1.1 (Questions 1-4 and 6)
- Transport Practice 1.5 (Question 1)
- Transport Practice 1.6
- Transport Practice 2.1
- Transport Practice 3.1.

The ICMI's *Auditor Guidance for Use of Cyanide Transportation Verification Protocol* (ICMI 2021) was used to conduct the due diligence assessment. It was not possible during this due diligence to physically inspect operations, as such, the review was based on information obtained from previous due diligence reviews, ICMI audit reports and publicly available online information. Based on the evidence reviewed, this due diligence did not find issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance of the port for future work; rather it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

Overview of the Port of Abidjan, Côte d'Ivoire

The port of Abidjan is located on the Côte d'Ivoire (Ivory Coast) in West Africa and is considered the most important port in West Africa and the second most important in Africa (Logistics, Abidjan (CIABJ), n.d.). The port of Abidjan is located on the Ébrié Lagoon and is connected to the Gulf of Guinea and Atlantic Ocean by the Vridi Plage sandbar (Encyclopaedia Britannica, 2024), a buoyed channel 2.8 km in length and 13.0 m deep (Hapag-Lloyd, 2024). Abidjan is the economical capital and main port of Côte d'Ivoire, with a central location and well-developed infrastructure, it is a major point for transhipments into West and Central Africa over the Côte d'Ivoire's network of rail and road systems (Encyclopaedia Britannica, 2024).

The port of Abidjan has a total quay length of up to 6 km and can accommodate vessels up to 260 m in length (Logistics, Abidjan (CIABJ), n.d.).The port provides around ~408,000 m^2 of open storage and ~144 000 m^2 of covered warehouses and sheds (Logistics, Abidjan (CIABJ), n.d.) for general cargo, timber, cereals, fruits, petroleum products and containers (Port Autonome D'Abidjan, 2023).The port od Abidjan has 34 berths, 3 berths specialise in container-handling, and one berth is dedicated to roll-on/roll-off cargoes (Golder, 2021).

On October 5, 2020, Bolloré Ports, APN Terminals, and the Côte d'Ivoire government initiated the construction of the Côte d'Ivoire Terminal, the second container terminal at the Port of Abidjan, which was completed in October 2022 (Cote D'Ivoire Terminal (CIT), 2022). The new terminal at the Port of Abidjan, built with an investment of approximately 900 million euro, spans 37.5 hectares, has a 1100 metre-long quay, a 16-metre draft, and can handle 1.5 million twenty-foot equivalent units (TEUs) annually, featuring innovations like automated gates and an online truck appointment system (Cote D'Ivoire Terminal (CIT), 2022). At the end of 2022, Bolloré Africa Logistics was rebranded as Africa Global Logistics (AGL) following its acquisition by MSC (Damian Brett, 2023).

The port of Abidjan is certified with International Standards Organization (ISO) 9001:2008 (quality), ISO 14001:2004 (environment) and OHSAS 18001:2007 (health and security) (Port Autonome D'Abidjan, 2023).

Port operations include:

- The approach of the vessels to the port will consider channels, special navigation points, currents, tides, and weather.
- Entry into the port is controlled by the port's Pilot who understands the port protocols and any unique issues regarding the approach and docking of a vessel at the port. The Ship's Captain works in conjunction with the Pilot as they understand the vessel and can implement and assist with the Pilot's instructions.
- Once a vessel is secure alongside the wharf, the shipping activities changeover to port activities. The vessel's manifest of what containers are required to be unloaded, including the manifest for containers for loading are handed over. This manifest identifies hazardous cargos and their United Nations (UN) number, classification, and segregation requirements.
- Port protocols exist for docking of vessels (e.g.,, use of Pilots and tugboats, management of different weather conditions, tides, currents and safety and general port operations), which support the safe docking and turnaround of vessels in and out of the port.
- Africa Global Logistics (AGL) (formerly Bollore Africa Logistics) manage the onshore (wharf) operations at the Port of Abidjan container and Roll-on-Roll-off terminals. Stevedoring operations include:
- Handling of containers whether full or empty on and off the vessels, container storage areas for general cargo, port security, control systems for companies and their vehicles, and collecting and/or delivering containers.
- Software programs that control container placement and movement. These software packages identify each individual container placement area in designated stacks. The input information for the placement of containers originates from the vessel's manifest.

ICMC transport verification protocol assessment

Transport Practice 1.1: Select cyanide transport routes to minimise the potential for accidents and releases

Orica uses reputable shipping lines for the transportation of sodium cyanide manufactured by Orica or manufactured by third parties on behalf of Orica (Orica, 2024a).

Orica's Sodium Cyanide Transport Management protocol (Orica, 2024a) states that all routes used for sodium cyanide transport must undergo a risk assessment to determine their suitability. If multiple routes are available, each one requires an individual risk assessment. These assessments are conducted in accordance with the Route Risk Assessment (Orica, 2024c) and AS 4360:2004 Risk Management standards. Any risks identified as "extreme" must be prioritised and addressed through the development of an action plan to mitigate these risks as much as possible. The process for documenting the risks associated with selected routes is outlined in the Route Risk Assessment (Orica, 2024c).

Feedback regarding the routes is taken into consideration and forwarded to the Health, Safety & Environment (HS&E) Officer for the necessary updates to the route assessment. This information is also shared with the Orica representative in the relevant region (Orica, 2024a).

In situations where special safety measures or concerns are present, or where escorts are required, compliance with SUP-GLO-PRO-024 is mandatory. Additionally, Carrier Safety Programs should align with the requirements of SUP-GLO-PRO-005 (Orica, 2024a).

Cyanide is then transported by road to various mine sites within West Africa by Code-certified transporters.

Transport Practice 1.5: Follow international standards for transportation of cyanide by sea

Orica's manufacturing facility and transfer stations are ICMC certified, therefore, sodium cyanide is packaged and transported in accordance with international regulatory standards and in line with all requirements of the International Maritime Dangerous Goods Code (IMDG) and the current versions of the United Nations Dangerous Goods Transport Guidelines, the Australian Code for the Transport of Dangerous Goods by Road and Rail and the International Maritime Dangerous Goods Code (Orica, 2024a).

Carriers are required to provide manifest documentation, to satisfy local customs regulations and the requirements of the International Maritime Dangerous Goods (IMDG) Code (IMO, 2024b), to the destination port. The manifest should contain a list of the cargo types and in the case of sodium cyanide and any other hazardous cargo the quantity, unique packaging numbers, stowage reference and emergency response procedures. Assessment of transportation agencies is via the Orica Carrier Assessment Questionnaire found in SUP-GLO-PRO-016, which enables a self-assessment and external assessment. A scoring system is included in this assessment process with minimum standards detailed (Orica, 2024a).

Côte d'Ivoire is an International Maritime Organization (IMO) Member State (1960) (IMO, 2019) and a Safety of Life at Sea (SOLAS) Signatory Nation (1974) (ICSLAS, 2024) thereby requiring the Port of Abidjan to adhere to the international regulations for the transportation and handling of dangerous goods as set out in the International Maritime Dangerous Goods Code (Parts 4, 5 and 7) (IMO, 2024b)& (IMO, 2024c).

The Harbour Masters and the Port Authority ensure that dangerous goods, both entering and unloading at the port, are properly classified, packaged, marked, labelled, and declared by the shipper or carrier in accordance with the IMDG Code and applicable national regulations (Port Autonome D'Abidjan, 2024).

Transport Practice 1.6: Track cyanide shipments to prevent losses during transport

The Harbour Master organises ship movements, tracks pilotage operations, and supervises terminal operations via the port Control Tower and real-time closed-circuit television (CCTV) monitoring. Container terminal software allows for the controlled tracking and placement of containers when removed from the vessel (WSP Australia Pty Ltd, 2023).

Chain of custody documentation is used by shipping companies to prevent the loss of cargo during shipment. This documentation includes the vessel manifest which identifies the location and content of each container on the vessel along with packing certificates, Multimodal Dangerous Goods Forms, and Safety Data Sheets (WSP Australia Pty Ltd, 2023).

As a SOLAS signatory nation, it is obligation to transmit Long-Range Identification and Tracking (LRIT) information. This system provides global identification and tracking of ships for security, safety and protection of marine environment (IMO, 2024c).

Transport Practice 2.1: Store cyanide in a manner that minimises the potential for accidental releases

Port and vessel security is managed through the International Ship and port Facility Security Code (ISPS Code), awarded to the Port of Abidjan in 2004 (Port Autonome D'Abidjan, 2024). The ISPS Code is a comprehensive set of measures aimed to enhance security of ships and port facilities.

The port of Abidjan is also certified under Occupational Health and Safety Management Systems (OHSAS) 18001:2007 (Port Autonome D'Abidjan, 2023).There are regular security patrols, restricted points of access, video surveillance and the capability to call upon certain specialised State Defence and Security Forces (Port Autonome D'Abidjan, 2024). The new Terminal includes automated gates and an online truck appointment system that significantly speeds up pickup and delivery of containers and improves safety during the process (Cote D'Ivoire Terminal (CIT), 2022).

When containers of dangerous goods cannot be placed directly onto onwards transportation, they are sent to a secure holding facility under escort of the port Autonome d'Abidjan. All handling of dangerous goods, on and off vessels, must have prior authorisation by the Harbour Master who sets the timeframes that such handling may take place (Port Autonome D'Abidjan, 2024).

Cyanide product remains in the containers that were packed at the Production Facility. The packaging has a sealed plastic liner which stops the contact of product with moisture or humidity. The Intermediate Bulk Containers (IBCs) holding cyanide are stored within shipping containers that are transferred from vessel to trailer and moved to a designated dangerous goods storage area within the terminal confines. Containers are placed in an open-air environment to prevent the build-up of hydrogen cyanide gas.

Transport Practice 3.1: Prepare detailed emergency response plans for potential cyanide releases

Since 1960, Côte d'Ivoire has been a member of the IMO, as such, would adhere to the IMDG Code. Although, Côte d'Ivoire is not listed as a member of the IMO for the 2022-2023 biennium (IMO, Member States, 2024a).

The port of Abidjan is certified under the International Convention on Oil Pollution Preparedness, Response and Cooperation 1990 (OPRC 90) (United Nations, 1995). States which are party to OPRC 90 are required to establish a national system for responding to oil and hazardous/noxious substances pollution incidents, including a designated national authority, a national operational contact point and a national contingency plan (IMO, 2024d). This needs to be supported by a minimum level of response equipment, communications plans, and regular training and exercises (IMO, 2024d).

The Centre Ivorian Anti-Pollution Centre (CIAPOL) is the responsible authority for marine pollution in the Ivory Coast. CIAPOL, with the support of private contractors, manages the response to and monitoring of a Hazardous and Noxious Substances (HNS) incident and some equipment is readily available (ITOPF, 2024).

Conclusion

Based on the evidence reviewed, this due diligence did not find significant issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work; rather it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

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B2 Port of Ad Dammam, Saudi Arabia

7 March 2024

PS211281 002. RevA

Author: Megan Wood Approved: Rudi Seebach

Port due diligence executive summary

WSP Pty Ltd (WSP) conducted a due diligence of the Port of Ad Dammam, Saudi Arabia March 2024 on behalf of Orica Australia Pty Ltd (Orica).

The assessment was reviewed by Rudi Seebach who meets the International Cyanide Management Institute's (ICMI) requirements for a Transport Technical Specialist.

The following items, as detailed in the ICMI's Auditor Guidance for Use of Cyanide Transportation Verification Protocol (ICMI 2021), were addressed within the due diligence:

- Transport Practice 1.1 (Questions 1-4 and 6)
- Transport Practice 1.5 (Question 1)
- Transport Practice 1.6
- Transport Practice 2.1
- Transport Practice 3.1.

The ICMI's *Auditor Guidance for Use of Cyanide Transportation Verification Protocol* (ICMI 2021) was used to conduct the due diligence assessment. It was not possible during this due diligence to physically inspect operations, as such the review was based on information obtained from previous due diligence reviews, ICMI audit reports and publicly available online information. Based on the evidence reviewed, this due diligence did not find issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance of for future work; rather it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

Overview of the Port of Ad Dammam, Saudi Arabia

Also known as King Abdul Aziz Port, Dammam Port is the second most active commercial port in Saudi Arabia. It is situated on the northeastern coast of Saudi Arabia, about 5 nautical miles offshore and roughly 50 kilometres south of Ras Tanura (Seabay Logistics, 2024).

The port comprises several facilities including the Dammam Container Terminal with 4 berths, a Bulk Cement Berth, a Bulk Grain Terminal with 3 berths equipped with mobile machinery for grain handling, an Explosive Berth, and a Cold Store Terminal. In total, there are 39 cargo handling berths and a small craft harbour. The port also has a facility dedicated to discharging edible oils (Seabay Logistics, 2024).

Spanning over 19,000 hectares, Dammam Port manages approximately 20.5 million tons of cargo and receives about 2,100 vessels each year. The port primarily serves cargo vessels, which account for about 50% of the traffic, and fishing vessels, which make up around 14% of the traffic. The port can accommodate vessels up to 398 metres in length, with a maximum draught of 14 metres and a maximum deadweight of 196,000 tons (Seabay Logistics, 2024).

The container terminals at King Abdulaziz Port in Dammam are undergoing a transformation under a Build-Operate-Transfer (BOT) concession agreement with Saudi Global Ports (SGP), valued at over 7 billion riyals. The project is a significant stride towards achieving the objectives of the Saudi Vision 2030-inspired roadmap, which focuses on enhancing port operations and modernising infrastructure to foster a thriving and sustainable maritime ecosystem. It aligns with the aspirations of the National Transport and Logistics Strategy (NTLS) to establish the Kingdom as a global logistics hub connecting three major continents and is anticipated to increase the port's total capacity by 120% to 7.5 million twenty-foot equivalent units (TEUs) (SPA, 2024).

The year 2022 marked a significant milestone for King Abdulaziz Port in Dammam and its operator, SGP, with record-breaking annual performances across various metrics, resulting in the port's highest container throughput in its history, exceeding two million TEUs (SPA, 2024).

ICMC transport verification protocol assessment

Transport Practice 1.1: Select cyanide transport routes to minimise the potential for accidents and releases

Orica uses reputable shipping lines for the transportation of sodium cyanide manufactured by Orica or manufactured by third parties on behalf of Orica (Orica, 2024a).

Orica's Sodium Cyanide Transport Management protocol (Orica, 2024a) states that all routes used for sodium cyanide transport must undergo a risk assessment to determine their suitability. If multiple routes are available, each one requires an individual risk assessment. These assessments are conducted in accordance with the Route Risk Assessment (Orica, 2024c) and AS 4360:2004 Risk Management standards. Any risks identified as "extreme" must be prioritised and addressed through the development of an action plan to mitigate these risks as much as possible. The process for documenting the risks associated with selected routes is outlined in the Route Risk Assessment (Orica, 2024c).

Feedback regarding the routes is taken into consideration and forwarded to the Health, Safety & Environment (HS&E) Officer for the necessary updates to the route assessment. This information is also shared with the Orica representative in the relevant region (Orica, 2024a).

In situations where special safety measures or concerns are present, or where escorts are required, compliance with SUP-GLO-PRO-024 is mandatory. Additionally, Carrier Safety Programs should align with the requirements of SUP-GLO-PRO-005 (Orica, 2024a).

Transport Practice 1.5: Follow international standards for transportation of cyanide by sea

Orica's manufacturing facility and transfer stations are ICMC certified, therefore, sodium cyanide is packaged and transported in accordance with international regulatory standards and in line with all requirements of the International Maritime Dangerous Goods Code (IMDG) and the current versions of the United Nations Dangerous Goods Transport Guidelines, the Australian Code for the Transport of Dangerous Goods by Road and Rail and the International Maritime Dangerous Goods Code (Orica, 2024a).

Carriers are required to provide manifest documentation, to satisfy local customs regulations and the requirements of the International Maritime Dangerous Goods (IMDG) Code (IMO, 2024b), to the destination port. The manifest should contain a list of the cargo types and in the case of sodium cyanide and any other hazardous cargo the quantity, unique packaging numbers, stowage reference and emergency response procedures. Assessment of transportation agencies is via the Orica Carrier Assessment Questionnaire found in SUP-GLO-PRO-016, which enables a self-assessment and external assessment. A scoring system is included in this assessment process with minimum standards detailed (Orica, 2024a).

Saudi Arabia is an International Maritime Organization (IMO) Member State (1969) (IMO, Member States, 2024a) and a Safety of Life at Sea (SOLAS) Signatory Nation (1974) (IMO, 2024c) thereby requiring the Port of Abidjan to adhere to the international regulations for the transportation and handling of dangerous goods as set out in the International Maritime Dangerous Goods Code (Parts 4, 5 and 7) (IMO, 2024b) & (IMO, 2024c).

Transport Practice 1.6: Track cyanide shipments to prevent losses during transport

As a SOLAS signatory nation, it is obligation to transmit Long-Range Identification and Tracking (LRIT) information. This system provides global identification and tracking of ships for security, safety and protection of marine environment (IMO, 2024c).

Chain of custody documentation is used by shipping companies to prevent the loss of cargo during shipment. This documentation includes the vessel manifest which identifies the location and content of each container on the vessel along with packing certificates, Multimodal Dangerous Goods Forms, and Safety Data Sheets.

Transport Practice 2.1: Store cyanide in a manner that minimises the potential for accidental releases

In general, port and vessel security are managed through the International Ship and Port Facility Security Code (ISPS Code). The ISPS Code is a comprehensive set of measures to enhance security of ships and port facilities. The purpose of the ISPS Code is to provide a standardised, consistent framework for evaluating risk, enabling Governments to offset changes in threat with changes in vulnerability for ships and port facilities through determination of appropriate security levels and corresponding security measures. The ISPS Code takes the approach that ensuring the security of ships and port facilities is a risk management activity and that, to determine what security measures are appropriate, an assessment of the risks must be made in each case (IMO, SOLAS XI-2 and the ISPS Code, 2024).

Transport Practice 3.1: Prepare detailed emergency response plans for potential cyanide releases

The Presidency of Meteorology and Environment (PME) under the Saudi Arabian Ministry of Defence and Aviation oversees all environmental affairs in the Kingdom, including the conservation of marine and coastal resources. The PME ensures capabilities for reporting, surveillance, and response to spills in Saudi Arabian waters, as detailed in the National Contingency Plan for Combating Marine Pollution.

This plan establishes committees for operations and environmental protection for both the Red Sea coast and the Gulf Coast. These committees, chaired by PME, include representatives from various authorities and are responsible for preparing area plans, identifying necessary manpower and equipment, and training staff in response activities.

Equipment for responding to shipping accidents is held by PME in Jubail and Jeddah, while the Saudi Port Authority maintains substantial equipment in all Saudi ports on the Red Sea and Arabian Gulf. The Arabian American Oil Company (SAUDI ARAMCO) holds the country’s largest stock of oil pollution control and clean-up equipment and has a dedicated oil spill clean-up group. SAUDI ARAMCO is a member of the Regional Clean Sea Organisation (RECSO) and can request assistance from other member companies outside Saudi Arabia for major spills (ITOPF, 2024).

Conclusion

Based on the evidence reviewed, this due diligence did not find significant issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work; rather it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

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B3 Port of Auckland, New Zealand

22 February 2024

PS211281 003. RevA

Author: Megan Wood Approved: Rudi Seebach

Port due diligence executive summary

WSP Pty Ltd (WSP) conducted a due diligence of the Port of Auckland, New Zealand during February 2024 on behalf of Orica Australia Pty Ltd (Orica).

The assessment was reviewed by Rudi Seebach who meets the International Cyanide Management Institute's (ICMI) requirements for a Transport Technical Specialist.

The following items, as detailed in the ICMI's *Auditor Guidance for Use of Cyanide Transportation Verification Protocol* (ICMI 2021), were addressed within the due diligence:

- Transport Practice 1.1 (Questions 1-4 and 6)
- Transport Practice 1.5 (Question 1)
- Transport Practice 1.6
- Transport Practice 2.1
- Transport Practice 3.1.

The ICMI's *Auditor Guidance for Use of Cyanide Transportation Verification Protocol* (ICMI 2021) was used to conduct the due diligence assessment. It was not possible during this due diligence to physically inspect operations, as such the review was based on information obtained from previous due diligence reviews, ICMI audit reports and publicly available online information. Based on the evidence reviewed, this due diligence did not find issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work. Instead, it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

Overview of the Port of Auckland

The port of Auckland, New Zealand (NZAKL), also known as Waitemata Harbour, is located on the east coast of North Island (Logistics, Port Codes, 2024a). The port is divided into two areas, one located on the east coast near Auckland's central business district, and the other on the west coast in Onehunga (Logistics, Port Codes, 2024a)

The port is configured into two main terminals, the Multi-Purpose Bledisloe Terminal and the Fergusson Container Terminal (Port of Auckland, 2022). Ports of Auckland Limited (POAL) manages the 17 berths and eight wharfs, with cargo-handling services provided by third-party stevedoring companies ((Port of Auckland, 2022). The Port of Auckland has four parallel rail lines. Each of these lines is 500 metres long and can hold up to 128 rail wagons simultaneously for the loading and unloading of sea containers.

Port operations include:

- The approach of the vessels to the port will consider channels, special navigation points, currents, tides, and weather.

- Entry into the port is controlled by the port's Pilot who understands the port protocols and any unique issues regarding the approach and docking of a vessel at the port. The Ship's Captain works in conjunction with the Pilot as they understand the vessel and can implement and assist with the Pilot's instructions.
- Port protocols exist for docking of vessels (e.g.,, use of Pilots and tugboats, management of different weather conditions, tides, currents and safety and general port operations), which support the safe docking and turnaround of vessels in and out of the port.
- Once a vessel is secure alongside the wharf, the shipping activities changeover to port activities. The vessel's manifest of what containers are required to be unloaded, including the manifest for containers for loading are handed over. This manifest identifies hazardous cargos and their United Nations (UN) number, classification, and segregation requirements.

Stevedoring operations include:

- Handling of the containers whether full or empty on and off the vessels; container storage areas for general cargo, port security, control systems for companies and their vehicles collecting and or delivering containers.
- Software programs that control container placement and movement; these software packages identify each individual container placement area in designated stacks. The input information for the placement of containers comes from the vessel's manifest.

ICMC transport verification protocol assessment

Transport Practice 1.1: Select cyanide transport routes to minimise the potential for accidents and releases

Orica uses reputable shipping lines for the transportation of sodium cyanide manufactured by Orica or manufactured by third parties on behalf of Orica (Orica, 2024a).

Orica's Sodium Cyanide Transport Management protocol (Orica, 2024a) states that all routes used for sodium cyanide transport must undergo a risk assessment to determine their suitability. If multiple routes are available, each one requires an individual risk assessment. These assessments are conducted in accordance with the Route Risk Assessment (Orica, 2024c) and AS 4360:2004 Risk Management standards. Any risks identified as "extreme" must be prioritised and addressed through the development of an action plan to mitigate these risks as much as possible. The process for documenting the risks associated with selected routes is outlined in the Route Risk Assessment (Orica, 2024c).

Feedback regarding the routes is taken into consideration and forwarded to the Health, Safety & Environment (HS&E) Officer for the necessary updates to the route assessment. This information is also shared with the Orica representative in the relevant region (Orica, 2024a).

In situations where special safety measures or concerns are present, or where escorts are required, compliance with SUP-GLO-PRO-024 is mandatory. Additionally, Carrier Safety Programs should align with the requirements of SUP-GLO-PRO-005 (Orica, 2024a).

The port of Auckland can complete turn-around of ships in a matter of hours. The port is connected via rail to a network of inland freight hubs (Wiri, Mt Maunganui, Longburn, and Northgate) which provide further rail and road transportation linkages for industry users. These hubs all operate as an open platform, available to all stakeholders in the supply chain and offering regional importers and exporters a seamless, flexible service to overseas markets (Port of Auckland, 2024b).

Transport Practice 1.5: Follow international standards for transportation of cyanide by sea

Orica's manufacturing facility and transfer stations are ICMC certified, therefore, sodium cyanide is packaged and transported in accordance with international regulatory standards and in line with all requirements of the International Maritime Dangerous Goods Code (IMDG) and the current versions of the United Nations Dangerous Goods Transport Guidelines, the Australian Code for the Transport of Dangerous Goods by Road and Rail and the International Maritime Dangerous Goods Code (Orica, 2024a).

Carriers are required to provide manifest documentation, to satisfy local customs regulations and the requirements of the International Maritime Dangerous Goods (IMDG) Code (IMO, 2024b), to the destination port. The manifest should contain a list of the cargo types and in the case of sodium cyanide and any other hazardous cargo the quantity, unique packaging numbers, stowage reference and emergency response procedures. Assessment of transportation agencies is via the Orica Carrier Assessment Questionnaire found in SUP-GLO-PRO-016, which enables a self-assessment and external assessment. A scoring system is included in this assessment process with minimum standards detailed (Orica, 2024a).

New Zealand is both an International Maritime Organization (IMO) Member State (1960) (IMO, Member States, 2024a) and a Safety of Life at Sea (SOLAS) Signatory Nation (1990) (ICSLAS, 2024), thereby requiring the Port of Auckland to adhere to the international regulations for the transportation and handling of dangerous goods as set out in the IMDG Code (Parts 4, 5 and 7) (IMO 2018) and SOLAS Convention (1974) Chapter 7 (IMO, 2024b) & (IMO, 2024c). Carriers are required to provide manifest documentation, to satisfy local customs regulations and the requirements of the International Maritime Dangerous Goods (IMDG) Code (IMO, 2024b), to the destination port. The manifest should contain a list of the cargo types and in the case of sodium cyanide and any other hazardous cargo the quantity, unique packaging numbers, stowage reference and emergency response procedures.

Transport Practice 1.6: Track cyanide shipments to prevent losses during transport

The port of Auckland has policies and measures in place that comply with the International Ship and port Facility Security (ISPS) Code and are compliant with legislation local to New Zealand under the *Maritime Security Act 2004* (Port of Auckland, 2022). Furthermore, the terminal provides a Vehicle Booking System (VBS) to streamline the transport of containers between trucks and ships at the port terminal (Port of Auckland, 2024b).

Auckland Harbour Control schedules commercial movements around the harbour to coordinate adequate resources for each movement. It has an advisory role for providing information to ships and other craft entering the harbour limits (Port of Auckland, 2022). The port implements an Automated Identification System (AIS) to keep track of the movements of all ships as they transit in and out of the Harbour (Port of Auckland, 2024a)

Chain of custody documentation is used by shipping companies to prevent the loss of cargo during shipment. This documentation includes the vessel manifest which identifies the location and content of each container on the vessel along with packing certificates, Multimodal Dangerous Goods Forms and Safety Data Sheets.

Transport Practice 2.1: Store cyanide in a manner that minimises the potential for accidental releases

The Port of Auckland has a statutory obligation to comply with, amongst others, the security requirements of the *port's New Zealand Customs (NZC) Procedure Statement*, the *Customs and Excise Act 1996* (New Zealand Customs Service 1996), ISPS Code and the *Maritime Security Act 2004* (Port of Auckland, 2024c).

For the import of dangerous goods, the port enforces either a Direct to Motor Vehicle (DMV) or L&R process. Allowable dwell times are specified based on dangerous goods class and UN numbers; the dwell time commences from the time the container is discharged onto the wharf. The sodium cyanide allowable dwell time is 72 hours (Ports of Auckland, 2016)

Maritime New Zealand is responsible for the enforcement of both the Hazardous Substances and New Organisms (HSNO) Act and Health and Safety at Work Act on board ships but not on land within ports The harbour and port SMSs address the safe handling and notifications of dangerous goods and harmful substances on board ships in the harbour and at the berth. This includes dangerous goods and hazardous substances that may be in transit to other locations but are not being loaded or unloaded (Port of Auckland, 2024b).

The *Hazardous Substances and New Organisms Act 1996* (HSNO Act) (Government of New Zealand, 1996) and its associated *Codes of Practice HSNOCOP-16, HSNOCOP-28* and *HSNOCOP-2* ensure that cyanide is stored securely and with adequate ventilation (EPA, 2024).

Transport Practice 3.1: Prepare detailed emergency response plans for potential cyanide releases

New Zealand has been a member State of the IMO Council since 1960, it complies with the requirements of the IMDG Code (IMO, Member States, 2024a). The Maritime New Zealand (MNZ) is the competent authority and has responsibility for all forms of marine emergencies, including administering Part 24A: Carriage of Cargoes Dangerous Goods of the Maritime Rules for New Zealand (Maritime New Zealand, 2021). This document includes a hazard management and emergency response procedure (Subpart E).

The port of Auckland is certified under the International Convention on Oil Pollution Preparedness, Response and Cooperation 1990 (OPRC 90) (United Nations, 1995). The protocol requires that ships establish a national system for responding to oil and hazardous/noxious substances pollution incidents, including a designated national authority, a national operational contact point and a national contingency plan. This needs to be supported by a minimum level of response equipment, communications plans, regular training, and exercises.

Code of Practice *HSNOCOP-36 Preparing for a Chemical Emergency* also provides a comprehensive guide to emergency management suitable for use by businesses and facilities engaged in the storage, transport, use and handling of chemicals and hazardous substances (EPA, 2024).

Conclusion

Based on the evidence reviewed, this due diligence did not find significant issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work; rather it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

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B4 Port of Beira, Mozambique

7 March 2024

PS211281 004. RevA

Author: Megan Wood Approved: Rudi Seebach

Port due diligence executive summary

WSP Pty Ltd (WSP) conducted a due diligence of the Port of Beira during March 2024, on behalf of Orica Australia Pty Ltd (Orica).

The assessment was reviewed by Rudi Seebach, who meets the International Cyanide Management Institute's (ICMI) requirements for a Transport Technical Specialist.

The following items, as detailed in the ICMI's Auditor Guidance for Use of Cyanide Transportation Verification Protocol (ICMI 2021), were addressed within the due diligence:

- Transport Practice 1.1 (Questions 1-4 and 6)
- Transport Practice 1.5 (Question 1)
- Transport Practice 1.6
- Transport Practice 2.1
- Transport Practice 3.1.

The ICMI's *Auditor Guidance for Use of Cyanide Transportation Verification Protocol, 2021* (ICMI 2021) was used to conduct the due diligence assessment. It was not possible during this due diligence to physically inspect operations, as such the review was based on information obtained from previous due diligence reviews, ICMI audit reports and publicly available online information. Based on the evidence reviewed, this due diligence did not find issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work. Instead, it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

Overview of the Port of Beira, Mozambique

The port of Beira (MZBEW) lies on the northern shores of the Mozambique Channel of the Indian Ocean and is the second largest port in Mozambique (Logistics, Port Codes, 2024b). The port is accessed via the Macuti Channel (actual minimum depth of 8 m) which remains open throughout day and night (24 hours)

(Logistics Cluster, 2024).

The port of Beira has the following features (Logistics, Port Codes, 2024b) & (African Ports, 2024):

- Container and multi-purpose terminals have 645 m long berths with depths of 12 m and are supported by 36 m gantry cranes.
- The terminal provides two covered sheds (11,000 m^2) with the capacity of 100,000 twenty-foot equivalent units (TEUs) of containerised cargo per year.

- The port has a 350, 000 sq m^2 container yard with 144 electric reefer points and can accommodate 400,000 TEUs and International Maritime Dangerous Goods (IMDG) dangerous goods cargoes.
- The port has 11 berths along the quays length of 1,994 m with one reverse berth reserved for fishing vessels.
- General cargo terminal has the capacity to handle 4 million metric tons of cargo annually and has a 670-metre wharf with four berthing positions with 10 metres depth each.
- The general cargo storage area consists of five warehouses covering 15,000 sq metre and 12,000 sq metre open paved area, and additional 175,000 sq metres of storage area.

The port of Beira operates under the management and authority Cornelder de Mozambique (Logistics Cluster, 2024) and is a state member of International Maritime Organization (IMO) since 1979 (IMO, Member States, 2024a) and International Convention for the Safety of Life at Sea (SOLAS) signatory nation since 1990 (IMO, 2024c).

ICMC transport verification protocol assessment

Transport Practice 1.1: Select cyanide transport routes to minimise the potential for accidents and releases

Orica uses reputable shipping lines for the transportation of sodium cyanide manufactured by Orica or manufactured by third parties on behalf of Orica (Orica, 2024a).

Orica's Sodium Cyanide Transport Management protocol (Orica, 2024a) states that all routes used for sodium cyanide transport must undergo a risk assessment to determine their suitability. If multiple routes are available, each one requires an individual risk assessment. These assessments are conducted in accordance with the Route Risk Assessment (Orica, 2024c) and AS 4360:2004 Risk Management standards. Any risks identified as "extreme" must be prioritised and addressed through the development of an action plan to mitigate these risks as much as possible. The process for documenting the risks associated with selected routes is outlined in the Route Risk Assessment (Orica, 2024c).

Feedback regarding the routes is taken into consideration and forwarded to the Health, Safety & Environment (HS&E) Officer for the necessary updates to the route assessment. This information is also shared with the Orica representative in the relevant region (Orica, 2024a).

In situations where special safety measures or concerns are present, or where escorts are required, compliance with SUP-GLO-PRO-024 is mandatory. Additionally, Carrier Safety Programs should align with the requirements of SUP-GLO-PRO-005 (Orica, 2024a).

Transport Practice 1.5: Follow international standards for transportation of cyanide by sea

Orica's manufacturing facility and transfer stations are ICMC certified, therefore, sodium cyanide is packaged and transported in accordance with international regulatory standards and in line with all requirements of the International Maritime Dangerous Goods Code (IMDG) and the current versions of the United Nations Dangerous Goods Transport Guidelines, the Australian Code for the Transport of Dangerous Goods by Road and Rail and the International Maritime Dangerous Goods Code (Orica, 2024a).

Mozambique is an IMO Member State (1960) (IMO, Member States, 2024a) and a Safety of Life at Sea (SOLAS) Signatory Nation (1974) (IMO, 2024c) thereby requiring the Port of Beira to adhere to the international regulations for the transportation and handling of dangerous goods as set out in the International Maritime Dangerous Goods Code (Parts 4, 5 and 7) (IMO, 2024b) and (IMO, 2024c).

Carriers are required to provide manifest documentation, to satisfy local customs regulations and the requirements of the International Maritime Dangerous Goods (IMDG) Code (IMO, 2024b), to the destination port. The manifest should contain a list of the cargo types and in the case of sodium cyanide and any other hazardous cargo the quantity, unique packaging numbers, stowage reference and emergency response procedures.

Transport Practice 1.6: Track cyanide shipments to prevent losses during transport

The terminals are thoroughly safeguarded with electric fencing and a closed-circuit television (CCTV) security camera system. A professional private security company strictly manages the control of personnel, visitors, and cargo. Each terminal features a dedicated gate for entry and exit, equipped with electronic data access, customs, immigration, and health facilities (African Ports, 2024).

As a SOLAS signatory nation, it is obligated to transmit Long-Range Identification and Tracking (LRIT) information. This system provides global identification and tracking of ships for security, safety and protection of marine environment (IMO, 2024c). In addition, CdM adheres fully to the International Ship and Port Facility Security (ISPS) Code (Logistics Cluster, 2024).

The Dispatch Centre organises ship movements, tracks pilotage operations, and supervises terminal operations via real-time CCTV monitoring. Chain of custody documentation is used by shipping companies to prevent the loss of cargo during shipment. This documentation includes the vessel manifest which identifies the location and content of each container on the vessel along with packing certificates, Multimodal Dangerous Goods Forms and Safety Data Sheets (SDS) (WSP Australia Pty Ltd, 2023).

Transport Practice 2.1: Store cyanide in a manner that minimises the potential for accidental releases

The Port has 350,000 m^2 of well illuminated container yard with the capacity of 11,200 TEUs and includes a dedicated International Maritime Dangerous Goods (IMDG) storage area (African Ports, 2024).

As part of port security measures, a security fence has been constructed and a CCTV surveillance system is in place. The port complies with international security standards with current ISPS level 1. While handling cargo, necessary safety procedures are in place (African Ports, 2024).

In general, port and vessel security are managed through the International Ship and Port Facility Security Code (ISPS Code). The ISPS Code is a comprehensive set of measures to enhance security of ships and port facilities. The purpose of the ISPS Code is to provide a standardised, consistent framework for evaluating risk, enabling Governments to offset changes in threat with changes in vulnerability for ships and port facilities through determination of appropriate security levels and corresponding security measures. The ISPS Code takes the approach that ensuring the security of ships and port facilities is a risk management activity and that, to determine what security measures are appropriate, an assessment of the risks must be made in each case (IMO, SOLAS XI-2 and the ISPS Code, 2024)

Transport Practice 3.1: Prepare detailed emergency response plans for potential cyanide releases

Mozambique has been a member State of the IMO Council since 1960, it complies with the requirements of the IMDG Code (IMO, Member States, 2024a). In addition they a Safety of Life at Sea (SOLAS) Signatory Nation (1974) (IMO, 2024c).

The Maritime Administration and Safety Authority (SAFMAR), under the Ministry of Transport and Communications, is the national agency responsible for responding to oil pollution at sea within the country's 12 nm territorial limit. A draft National Contingency Plan has been prepared, and a working group involving public institutions, NGOs, and the oil industry has been established (ITOPF, 2024).

While SAFMAR oversees marine spill responses, local city councils are responsible for shoreline clean-up. The port authorities handle spills within the ports, and the Ministry of Environment (MoE) manages land-based spills. These responsibilities are governed by the Maritime Law (1996) and the Environmental Law (1997) (ITOPF, 2024).

The clean-up policy is currently unknown, but resource limitations likely restrict response measures to protecting key sites and manual shoreline clean-up. The lack of readily available dispersant stocks in Mozambique means that dispersant application has not been significantly used as a primary response strategy. The presence of mangroves, coral reefs, and shallow waters, particularly in Maputo Bay, may limit the practicality of its application in a spill event.

Conclusion

Based on the evidence reviewed, this due diligence did not find significant issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work; rather it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

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B5 Port of Belawan, Indonesia

23 February 2024

PS211281 005. RevA

Author: Megan Wood

Approved: Rudi Seebach

Port due diligence executive summary

WSP Pty Ltd (WSP) conducted a due diligence of the Port of Belawan during February 2024, on behalf of Orica Australia Pty Ltd (Orica).

The assessment was reviewed by Rudi Seebach, who meets the International Cyanide Management Institute's (ICMI) requirements for a Transport Technical Specialist.

The following items, as detailed in the ICMI's Auditor Guidance for Use of Cyanide Transportation Verification Protocol, June 2021 (ICMI 2022), were addressed within the due diligence:

- Transport Practice 1.1 (Questions 1-4 and 6)
- Transport Practice 1.5 (Question 1)
- Transport Practice 1.6
- Transport Practice 2.1
- Transport Practice 3.1.

The ICMI's *Auditor Guidance for Use of Cyanide Transportation Verification Protocol, June 2021* (ICMI 2022) was used to conduct the due diligence assessment. It was not possible during this due diligence to physically inspect operations, as such the review was based on information obtained from previous due diligence reviews, ICMI audit reports and publicly available online information. Based on the evidence reviewed, this due diligence did not find issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work. Instead, it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

Overview of the Port of Belawan, Indonesia

The port of Belawan is located on the Deli River in the east coast of the province of North Sumatera and Medan, Indonesia (Logistics Cluster, 2024). Belawan Port serves as the primary maritime entry and exit point for the import and export of diverse industrial goods on Sumatra island. It is equipped to handle all types of containers, RoRo, as well as bulk and break-bulk cargo (Logistics Cluster, 2024).

Belawan port's bulk handling features encompass three terminal facilities specifically for fertiliser, cement, and copra residue. Each facility spans 100 m and has a handling capacity ranging from 500,000 to 985,000 tons per year for these commodities. The port houses 25 warehouses, collectively covering an area of 61,474 square metres. Additionally, the port comprises 23 yards spanning a total area of 64,386.96 m^2 and 7 container yards with a cumulative area of 262,490 m^2 (Logistics Cluster, 2024). In 2023 agreements were finalised to expand capacity to 1.4 million TEUs at the Belawan Container Terminal (The National , 2024).

Stevedoring services, provided by 36 Stevedoring Companies, include, but are not limited to:

- Pilotage, towage, cargo and goods, warehouse, open storage, container yard, operation and rental of handling equipment.
- Stevedoring services in delivering of the cargos to the designated location.

The port is under the administration of PT. Pelindo (Persoro) Reginal l Northern Sumatera (Logistics Cluster, 2024).

ICMC transport verification protocol assessment

Transport Practice 1.1: Select cyanide transport routes to minimise the potential for accidents and releases

Orica uses reputable shipping lines for the transportation of sodium cyanide manufactured by Orica or manufactured by third parties on behalf of Orica (Orica, 2024a).

Orica's Sodium Cyanide Transport Management protocol (Orica, 2024a) states that all routes used for sodium cyanide transport must undergo a risk assessment to determine their suitability. If multiple routes are available, each one requires an individual risk assessment. These assessments are conducted in accordance with the Route Risk Assessment (Orica, 2024c) and AS 4360:2004 Risk Management standards. Any risks identified as "extreme" must be prioritised and addressed through the development of an action plan to mitigate these risks as much as possible. The process for documenting the risks associated with selected routes is outlined in the Route Risk Assessment (Orica, 2024c).

Feedback regarding the routes is taken into consideration and forwarded to the Health, Safety & Environment (HS&E) Officer for the necessary updates to the route assessment. This information is also shared with the Orica representative in the relevant region (Orica, 2024a).

In situations where special safety measures or concerns are present, or where escorts are required, compliance with SUP-GLO-PRO-024 is mandatory. Additionally, Carrier Safety Programs should align with the requirements of SUP-GLO-PRO-005 (Orica, 2024a).

Transport Practice 1.5: Follow international standards for transportation of cyanide by sea

Orica's manufacturing facility and transfer stations are ICMC certified, therefore, sodium cyanide is packaged and transported in accordance with international regulatory standards and in line with all requirements of the International Maritime Dangerous Goods Code (IMDG) and the current versions of the United Nations Dangerous Goods Transport Guidelines, the Australian Code for the Transport of Dangerous Goods by Road and Rail and the International Maritime Dangerous Goods Code (Orica, 2024a).

Carriers are required to provide manifest documentation, to satisfy local customs regulations and the requirements of the International Maritime Dangerous Goods (IMDG) Code (IMO, 2024b), to the destination port. The manifest should contain a list of the cargo types and in the case of sodium cyanide and any other hazardous cargo the quantity, unique packaging numbers, stowage reference and emergency response procedures. Assessment of transportation agencies is via the Orica Carrier Assessment Questionnaire found in SUP-GLO-PRO-016, which enables a self-assessment and external assessment. A scoring system is included in this assessment process with minimum standards detailed (Orica, 2024a).

Indonesia is an International Maritime Organization (IMO) Member State since 1961 (IMO, Member States, 2024a) and a Safety of Life at Sea (SOLAS) Signatory Nation (IMO, 2024c), thereby requiring the port to adhere to the international regulations for the transportation and handling of dangerous goods as set out in the IMDG Code (Parts 4, 5 and 7) and the SOLAS Convention 1974 (Chapter 7) (IMO, 2024b).

Transport Practice 1.6: Track cyanide shipments to prevent losses during transport

Chain of custody documentation is used by shipping companies to prevent the loss of cargo during shipment. This documentation includes the vessel manifest which identifies the location and content of each container on the vessel along with packing certificates, Multimodal Dangerous Goods Forms and Safety Data Sheets (SDS) (WSP Australia Pty Ltd, 2023).

As a SOLAS signatory nation, it is obligated to transmit Long-Range Identification and Tracking (LRIT) information. This system provides global identification and tracking of ships for security, safety and protection of marine environment (IMO, 2024c).

Transport Practice 2.1: Store cyanide in a manner that minimises the potential for accidental releases

The Belawan port is considered compliant with the International Ship and Port Security Service Code (ISPS Code) (Logistics Cluster, 2024) The ISPS code provides a framework through which ships and port facilities can detect and rectify the threats posed to a maritime security (IMO, 2024c). As a state member of IMO and the International Convention for the Prevention of Pollution from Ships (MARPOL), Indonesian port authorities are required to maintain compliance with the safety and operational regulations for the inspection and reporting of an incident involving harmful substance (IMO, 2024d).

As per the ‘Regulation of the Minister of Trade No. 7 of 2022’, regarding the distribution and control of hazardous substances, consignors for the distribution of certain hazardous substance and are required to obtain a permit to handle hazardous goods, and must report the distribution results to the regulatory authority (Aoki Kenji, 2022). As per the government regulation (No. 74/2001) for hazardous and toxic substance management, the consignor must obtain an appropriate license and ensure suitable storage facilities are available for segregation of substances and fitted with the appropriate signage/labels (Government of the Republic of Indonesia, 2001).

Transport Practice 3.1: Prepare detailed emergency response plans for potential cyanide releases

Indonesia is a state member of IMO and International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW), and complies with the requirements of IMDG code and STCW emergency, occupational safety, medical care and survival functions (IMO, 1978).

The Indonesia government regulation (No. 74/2001), Article 19, sets the requirements for the management of the hazardous substance storage facility to have an emergency response capacity, management system and handling procedure (Government of the Republic of Indonesia, 2001)

Conclusion

Based on the evidence reviewed, this due diligence did not find significant issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work; rather it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

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B6 Port of Bitung, Indonesia

22 February 2024

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Author: Megan Wood Approved: Rudi Seebach

Port due diligence executive summary

WSP Pty Ltd (WSP) conducted a due diligence of the Port of Bitung, Indonesia during February 2024, on behalf of Orica Australia Pty Ltd (Orica).

The assessment was reviewed by Rudi Seebach who meets the International Cyanide Management Institute's (ICMI) requirements for a Transport Technical Specialist.

The following items, as detailed in the ICMI's Auditor Guidance for Use of Cyanide Transportation Verification Protocol (ICMI 2021), were addressed within the due diligence:

- Transport Practice 1.1 (Questions 1-4 and 6)
- Transport Practice 1.5 (Question 1)
- Transport Practice 1.6
- Transport Practice 2.1
- Transport Practice 3.1.

The ICMI's *Auditor Guidance for Use of Cyanide Transportation Verification Protocol* (ICMI 2021) was used to conduct the due diligence assessment. It was not possible during this due diligence to physically inspect operations, as such the review was based on information obtained from previous due diligence reviews, ICMI audit reports and publicly available online information. Based on the evidence reviewed, this due diligence did not find issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance of for future work; rather it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

Overview of the Port of Bitung, Indonesia

The Bitung Port, situated in Bitung City approximately 40 km east of Manado City, comprises two ports managed by Pelindo IV North Sulawesi: a conventional port and a container port. The conventional port includes an LCT berth, a passenger berth, and a container berth, while the container port is specifically designed for container handling operations (Logistics Cluster, 2024h).

The majority of goods supplied to North Sulawesi are transported by sea from Makassar and Surabaya via the Conventional Port of Bitung. These goods are then distributed to Manado City, other districts, and islands. The container traffic, measured in Twenty-Foot Equivalent Units (TEUs), is 1,447 for the Conventional Port and 277 for the Container Port (Logistics Cluster, 2024h).

Stevedoring activities are coordinated by authorised third-party companies in collaboration with the Labour Union Association (TKBM), which is overseen by the Port Authority (KSOP) Office (Logistics Cluster, 2024h). Owners or shippers also have the option to unload their own cargo by directly liaising with the Labour Union Association.

These entities offer comprehensive or semi-comprehensive services, which include arranging labour and handling equipment, unloading goods at the port, and directly delivering the goods to the customer's warehouses.

The managing authority is PT. Pelabuhan Indonesia and IV (Persero) Cabang Pelabuhan Bitung.

ICMC transport verification protocol assessment

Transport Practice 1.1: Select cyanide transport routes to minimise the potential for accidents and releases

Orica uses reputable shipping lines for the transportation of sodium cyanide manufactured by Orica or manufactured by third parties on behalf of Orica (Orica, 2024a).

Orica's Sodium Cyanide Transport Management protocol (Orica, 2024a) states that all routes used for sodium cyanide transport must undergo a risk assessment to determine their suitability. If multiple routes are available, each one requires an individual risk assessment. These assessments are conducted in accordance with the Route Risk Assessment (Orica, 2024c) and AS 4360:2004 Risk Management standards. Any risks identified as "extreme" must be prioritised and addressed through the development of an action plan to mitigate these risks as much as possible. The process for documenting the risks associated with selected routes is outlined in the Route Risk Assessment (Orica, 2024c).

Feedback regarding the routes is taken into consideration and forwarded to the Health, Safety & Environment (HS&E) Officer for the necessary updates to the route assessment. This information is also shared with the Orica representative in the relevant region (Orica, 2024a).

In situations where special safety measures or concerns are present, or where escorts are required, compliance with SUP-GLO-PRO-024 is mandatory. Additionally, Carrier Safety Programs should align with the requirements of SUP-GLO-PRO-005 (Orica, 2024a).

Transport Practice 1.5: Follow international standards for transportation of cyanide by sea

Orica's manufacturing facility and transfer stations are ICMC certified, therefore, sodium cyanide is packaged and transported in accordance with international regulatory standards and in line with all requirements of the International Maritime Dangerous Goods Code (IMDG) and the current versions of the United Nations Dangerous Goods Transport Guidelines, the Australian Code for the Transport of Dangerous Goods by Road and Rail and the International Maritime Dangerous Goods Code (Orica, 2024a).

Carriers are required to provide manifest documentation, to satisfy local customs regulations and the requirements of the International Maritime Dangerous Goods (IMDG) Code (IMO, 2024b), to the destination port. The manifest should contain a list of the cargo types and in the case of sodium cyanide and any other hazardous cargo the quantity, unique packaging numbers, stowage reference and emergency response procedures. Assessment of transportation agencies is via the Orica Carrier Assessment Questionnaire found in SUP-GLO-PRO-016, which enables a self-assessment and external assessment. A scoring system is included in this assessment process with minimum standards detailed (Orica, 2024a).

Indonesia is an International Maritime Organization (IMO) Member State (1961) (IMO, Member States, 2024a) and a Safety of Life at Sea (SOLAS) Signatory Nation (1974) (ICSLAS, 2024) thereby requiring the Port of Bitung, Indonesia to adhere to the international regulations for the transportation and handling of dangerous goods as set out in the International Maritime Dangerous Goods Code (Parts 4, 5 and 7) (IMO, 2024b) & (IMO, 2024c).

Transport Practice 1.6: Track cyanide shipments to prevent losses during transport

The port of Bitung has policies and measures in place that comply with the International Ship and port Facility Security (ISPS) Code (Logistics Cluster, 2024h).

Chain of custody documentation is used by shipping companies to prevent the loss of cargo during shipment. This documentation includes the vessel manifest which identifies the location and content of each container on the vessel along with packing certificates, Multimodal Dangerous Goods Forms and Safety Data Sheets.

As a SOLAS signatory nation, it is obligated to transmit Long-Range Identification and Tracking (LRIT) information. This system provides global identification and tracking of ships for security, safety and protection of marine environment (IMO, 2024c).

Transport Practice 2.1: Store cyanide in a manner that minimises the potential for accidental releases

As a state member of IMO and The International Convention for the Prevention of Pollution from Ships (MARPOL), Indonesian port authorities are required to maintain compliance with the safety and operational regulations for the inspection and reporting of an incident involving harmful substance (IMO, 2024d). Port and vessel security are managed through the International Ship and port Facility Security Code (ISPS Code). The ISPS Code is a comprehensive set of measures to enhance security of ships and port facilities. All vessels calling at Indonesian ports must meet ISPS requirements (IMO, SOLAS XI-2 and the ISPS Code, 2024).

The purpose of the ISPS Code is to provide a standardised, consistent framework for evaluating risk, enabling Governments to offset changes in threat with changes in vulnerability for ships and port facilities through determination of appropriate security levels and corresponding security measures. The ISPS Code takes the approach that ensuring the security of ships and port facilities is a risk management activity and to determine what security measures are appropriate, an assessment of the risks must be made in each case.

As per the ‘Regulation of the Minister of Trade No. 7 of 2022’, regarding the distribution and control of hazardous substances, consignors for the distribution of certain hazardous substance and are required to obtain a permit to handle hazardous goods, and must report the distribution results to the regulatory authority (Aoki Kenji, 2022).

Transport Practice 3.1: Prepare detailed emergency response plans for potential cyanide releases

Indonesia has been a Member State of the IMO State Member since 1961 (IMO, Member States, 2024a) and complies with the requirements of the IMDG Code (IMO, 2024b). The Indonesian Government also has national standards in place for the transportation, handling and storage of hazardous substances. In addition, they are part of the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW), and comply with the requirements of IMDG code and STCW emergency, occupational safety, medical care and survival functions (IMO, 1978).

Indonesia is certified under the International Convention on Oil Pollution Preparedness, Response and Cooperation, 1990 (OPRC 90) (United Nations, 1995). States which are party to OPRC 90 are required to establish a national system for responding to oil and hazardous/noxious substances pollution incidents, including a designated national authority, a national operational contact point and a national contingency plan. This needs to be supported by a minimum level of response equipment, communications plans, and regular training and exercises (ITOPF, 2024).

Indonesia's National Oil Spill Contingency Plan (NOSCP) extends to hazardous and noxious substances (HNS). In the event of an emergency, the National Team for Oil Spill Response would provide the technical expertise, with input from other institutions, government departments, the private sector and other non-government organisations. The National Team through its Command and Control Centre would carry out the response, using personnel, equipment and materials belonging to its member organisations in the vicinity of the emergency incident (ITOPF, 2024).

The Directorate General of Sea Transportation (DGST) is the competent authority and administers the Plan for dealing with pollution by oil and other noxious substances in marine and freshwater environments. The DGST has equipment which could be utilised for hazardous and Noxious Substances (HNS) spills and is supported by further equipment from the oil industry (ITOPF, 2024).

Conclusion

Based on the evidence reviewed, this due diligence did not find significant issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work; rather it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

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B7 Port of Brisbane, Australia

22 February 2024

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Author: Megan Wood   Approved: Rudi Seebach

Port due diligence executive summary

WSP Pty Ltd (WSP) conducted a due diligence of the Port of Brisbane, Australia during February 2024, on behalf of Orica Australia Pty Ltd (Orica).

The assessment was reviewed by Rudi Seebach who meets the International Cyanide Management Institute's (ICMI) requirements for a Transport Technical Specialist.

The following items, as detailed in the ICMI's Auditor Guidance for Use of the Cyanide Transportation Verification Protocol (ICMI 2021), were addressed within the due diligence:

- Transport Practice 1.1 (Questions 1-4 and 6)
- Transport Practice 1.5 (Question 1)
- Transport Practice 1.6
- Transport Practice 2.1
- Transport Practice 3.1.

The ICMI's *Auditor Guidance for Use of Cyanide Transportation Verification Protocol* (ICMI 2021) was used to conduct the due diligence assessment. It was not possible during this due diligence to physically inspect operations, as such the review was based on information obtained from previous due diligence reviews, ICMI audit reports and publicly available online information. Based on the evidence reviewed, this due diligence did not find issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work. Instead, it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

Overview of the Port of Brisbane, Australia

The port of Brisbane (AUBNE) is one of Australia's fastest growing container ports and the state's largest multi-cargo port (Port of Brisbane, 2024a). Located at the mouth of the Brisbane River, the Port of Brisbane is managed and developed by PBPL under a 99-year lease from the Queensland Government (Port of Brisbane, 2024a). PBPL is responsible for developing and maintaining port infrastructure and facilities, and for the provision of key services including maintaining navigable access to the port for commercial shipping, and the operation of the Brisbane Multimodal Terminal (BMT) (Port of Brisbane, 2024a). The BMT is the interface between rail, road, and the container terminals at the Port of Brisbane (Port of Brisbane, 2024a).

Between the Port of Brisbane and its upriver facilities there are a total of 28 operating berths and more than 8,200 m of quayline (Brisbane, 2024b). The port of Brisbane has nine dedicated container berths, which are leased and operated by three stevedores Patrick, DP World and Brisbane Container Terminals all of which use automated container handling equipment. DP World Brisbane leases and operates Berths 4-7, Patrick leases and operates Berths 8-10 and Brisbane Container Terminals occupies Berth 11 and 12 (PBPL 2020b, internet site (Brisbane, 2024b).

Port operations include:

- The approach of a vessel to the port will consider channels, navigation points, currents, tides, and weather.
- Port entry is controlled by the Pilot who understands the port protocols and any unique issues regarding the approach and docking of vessels at the port. The Ship's Captain works in conjunction with the Pilot as they understand the vessel and can implement and assist with the Pilot's instructions.
- Port protocols and procedures are in place for docking of vessels at the port (e.g.,, use of Pilots and tugboats, management of weather conditions, tides, currents and safety, and general operations of the port). This sees to the safe docking and turnaround of vessels in and out of the port.
- Once a vessel is secure alongside the wharf, the shipping activities changeover to port activities. The vessel's manifest of what containers are required to be unloaded, including the manifest for containers for loading are handed over. This manifest identifies hazardous cargos and their United Nations (UN) number, classification, and segregation requirements.
- Vessel traffic services are the responsibility of the Queensland Department of Transport and Main Roads, and pilotage services are carried out by a private operator (Port of Brisbane, 2024a). Other port operations, including stevedoring and towage, are carried out by private operators who lease land from PBPL. Stevedoring operations include:
- Handling of the containers whether full or empty on and off the vessels; container storage areas for general cargo, port security, control systems for companies and their vehicles collecting and or delivering containers.
- Software programs that control container placement and movement; these software packages identify each individual container placement area in designated stacks. The input information for the placement of containers comes from the vessel's manifest.

PBPL is responsible for the management of dangerous goods in the port, including the loading and unloading of ships alongside and movement across the wharf. Vessel Traffic Services (VTS) is responsible for monitoring and managing the safe movement of ships in Queensland waters. VTS will assist the port authority in controlling traffic movement in the port, maintaining on/water safety distances, and responding to emergency situations (Port of Brisbane, 2024c).

ICMC transport verification protocol assessment

Transport Practice 1.1: Select cyanide transport routes to minimise the potential for accidents and releases

Orica uses reputable shipping lines for the transportation of sodium cyanide manufactured by Orica or manufactured by third parties on behalf of Orica (Orica, 2024a).

Orica's Sodium Cyanide Transport Management protocol (Orica, 2024a) states that all routes used for sodium cyanide transport must undergo a risk assessment to determine their suitability. If multiple routes are available, each one requires an individual risk assessment. These assessments are conducted in accordance with the Route Risk Assessment (Orica, 2024c) and AS 4360:2004 Risk Management standards. Any risks identified as "extreme" must be prioritised and addressed through the development of an action plan to mitigate these risks as much as possible. The process for documenting the risks associated with selected routes is outlined in the Route Risk Assessment (Orica, 2024c).

Feedback regarding the routes is taken into consideration and forwarded to the Health, Safety & Environment (HS&E) Officer for the necessary updates to the route assessment. This information is also shared with the Orica representative in the relevant region (Orica, 2024a).

In situations where special safety measures or concerns are present, or where escorts are required, compliance with SUP-GLO-PRO-024 is mandatory. Additionally, Carrier Safety Programs should align with the requirements of SUP-GLO-PRO-005 (Orica, 2024a).

The port of Brisbane's strategic location offers an efficient entry to market through direct connectivity to Australia's major road and rail networks.

Transport Practice 1.5: Follow international standards for transportation of cyanide by sea

Orica's manufacturing facility and transfer stations are ICMC certified, therefore, sodium cyanide is packaged and transported in accordance with international regulatory standards and in line with all requirements of the International Maritime Dangerous Goods Code (IMDG) and the current versions of the United Nations Dangerous Goods Transport Guidelines, the Australian Code for the Transport of Dangerous Goods by Road and Rail and the International Maritime Dangerous Goods Code (Orica, 2024a).

Carriers are required to provide manifest documentation, to satisfy local customs regulations and the requirements of the International Maritime Dangerous Goods (IMDG) Code (IMO, 2024b), to the destination port. The manifest should contain a list of the cargo types and in the case of sodium cyanide and any other hazardous cargo the quantity, unique packaging numbers, stowage reference and emergency response procedures.

Australia is an International Maritime Organization (IMO) Member State (1952) (IMO, Member States, 2024a) and a Safety of Life at Sea (SOLAS) Signatory Nation (1983) (IMO, 2024c) thereby requiring the Port of Brisbane to adhere to the international regulations for the transportation and handling of dangerous goods as set out in the IMDG Code (Parts 4, 5 and 7) and the SOLAS Convention 1974 (Chapter 7) (IMO, 2024b) & (IMO, 2024c).

Transport Practice 1.6: Track cyanide shipments to prevent losses during transport

According to the *Transport Operations (Marine Safety)* Act 1994, the Regional Harbour Master, an officer of Maritime Safety Queensland, oversees navigation control within the port, with Vessel Traffic Services being responsible for shipping movements in the pilotage area and operations 24 hours a day (Port of Brisbane, 2024c).

Chain of custody documentation is used by shipping companies to prevent the loss of cargo during shipment. This documentation includes the vessel manifest which identifies the location and content of each container on the vessel along with packing certificates, Multimodal Dangerous Goods Forms and Safety Data Sheets.

Section 10 (Dangerous Cargo) of the *Port Procedures and Information for Shipping, port of Brisbane* outlines the duties of owners and masters of vessels in relation to the *Marine Order 41 Carriage of Dangerous Goods* (Queensland Government, 2024). Illustrating that in line with the Australian Standard (AS) 3846-2005, *The Handling and Transport of Dangerous Cargoes in port Areas* (Standards Australia 2005), must notify PBPL and VTS of the intent to bring dangerous cargo into or depart from a pilotage area. In addition, ships must report the information, namely the arrival and/or departure of the ship, the removal of the ship to another berth or anchorage, the transfer of the cargo to another ship the loading of the cargo, and the details of the cargo in an approved form. In the Port of Brisbane agents/masters are to submit dangerous goods information electronically to the PBPL through the 'DGTrack' system (Government of Queensland, 2004).

Division 13 of the Transport Operations (Marine Safety) Regulation 2004 outlines the duties of owners and masters of vessels in relation to the carriage of dangerous goods. The regulation requires that ships carrying dangerous goods and bulk liquids must comply with the appropriate directions of the IMDG code (Government of Queensland, 2004).

Transport Practice 2.1: Store cyanide in a manner that minimises the potential for accidental releases

Sodium cyanide transited through the Port of Brisbane is temporary and remains on site for less than a day. This is a management measure to minimise potential for accidental releases during storage. All sodium cyanide transited through the Port of Brisbane remains contained within its sealed containers at all times preventing contact with water and other incompatible materials (WSP Australia Pty Ltd, 2023).

PBPL is responsible for the security and protection of the port's infrastructure and assets, and the provision of risk-based security services. In general, port and vessel security are managed through the International Ship and port Facility Security Code (ISPS Code). The ISPS Code is a comprehensive set of measures to enhance security of ships and port facilities, regulated by the *Maritime Transport and Offshore Facilities Security Act, 2003* (MTOFSA) (Australian Government 2012). The port of Brisbane is a security regulated port as specified in the MTOFSA (Port of Brisbane, 2024d).

In addition to PBPL's Maritime Security Plan, security regulated ships, port facilities and port service providers also have maritime security plans which outline the measures and procedures undertaken to protect vessels that trade in Australian seaports and the port infrastructure that services those vessels (Port of Brisbane, 2024d).

Transport Practice 3.1: Prepare detailed emergency response plans for potential cyanide releases

The port of Brisbane is certified under the IMO's International Convention on Oil Pollution Preparedness, Response and Cooperation 1990 (OPRC 90) (united Nations,1995). States which are party to OPRC 90 protocol are required to establish a national system for responding to oil and hazardous/noxious substances pollution incidents, including a designated national authority, a national operational contact point and a national contingency plan. This needs to be supported by a minimum level of response equipment, communications plans, and regular training and exercises.

Australian Maritime Safety Authority (AMSA), a federal government self-funded maritime safety agency established in 1990, is responsible for providing a national response capability for marine pollution. AMSA administers the *National Plan to Combat Pollution of the Sea by Oil and other Noxious and Hazardous Substances*, a cooperative arrangement between the Federal, State and Territory Governments and the shipping, oil, exploration and chemical industries, emergency services and fire brigades (Australian Government, 2021).

Under National Plan arrangements, a wide strategic range of response equipment is held at nine regional stockpiles. Equipment provided by AMSA is generally targeted at larger spills, though this is complemented by equipment held by port authorities, State Governments and individual oil and chemical companies.

Section 12 (Emergency Management) of the *port Procedures and Information for Shipping, Port of Brisbane* (MSQ 2020) provides guidance to the port community about initial response procedures to dangerous incidents, emergencies, terrorist acts and disasters (Maritime Safety Queensland, 2020).

Conclusion

Based on the evidence reviewed, this due diligence did not find significant issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work; rather it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

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B8 Port of Buenaventura, Colombia

27th February 2024

PS211281 008. RevA

Author: Megan Wood   Approved: Rudi Seebach

Port due diligence executive summary

WSP Pty Ltd (WSP) conducted a due diligence of the Port of Buenaventura, Colombia during February 2024, on behalf of Orica Australia Pty Ltd (Orica).

The assessment was reviewed by Rudi Seebach who meets the International Cyanide Management Institute's (ICMI) requirements for a Transport Technical Specialist.

The following items, as detailed in the ICMI's Auditor Guidance for Use of the Cyanide Transportation Verification Protocol (ICMI 2021), were addressed within the due diligence:

- Transport Practice 1.1 (Questions 1-4 and 6)
- Transport Practice 1.5 (Question 1)
- Transport Practice 1.6
- Transport Practice 2.1
- Transport Practice 3.1.

The ICMI's *Auditor Guidance for Use of Cyanide Transportation Verification Protocol* (ICMI 2021) was used to conduct the due diligence assessment. It was not possible during this due diligence to physically inspect operations, as such the review was based on information obtained from previous due diligence reviews, ICMI audit reports and publicly available online information. Based on the evidence reviewed, this due diligence did not find issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work. Instead, it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

Overview of the Port of Buenaventura, Colombia

The port of Buenaventura (COBUN) is the main port of Colombia in the Pacific Ocean and one of the biggest ports in South America (Marine Insight, 2024). The nearest city to the port is Buenaventura, located approximately 5 km to the southeast.

The Sociedad Portuaria Regional de Buenaventura S.A (Regional port Society of Buenaventura; SPRB) is the port authority (port Authority) for the Port of Buenaventura (Logistic Cluster, 2024).

The port of Buenaventura has specialised infrastructure for container handling, grain, bulk, and multipurpose cargo. It has 14 berths, 12 operated by Society of Buenaventura and 2 under another concession (Marine Insight, 2024). The port is a multimodal transport port with an access channel length of 31.5 km (17 Nautical miles). The outside bay depth is 9 m at low tide (Zero Equal) and the inside bay depth is 13 m at low tide (equal zero) (Logistic Cluster, 2024).

The port of Buenaventura has a specialised container terminal (Buenaventura SA TECSA). Key handling equipment at the port includes two 50 million tonne (MT) and two 60 MT dockside cranes, thirteen container gantries (40 to 62 MT) 3 on Neo-Panamax and 10 Post-Panamax rail mounted, three multipurpose mobile cranes (100 and 104 MT), 16 reach stackers (40 and 30 MT), and 10 forklifts with different capacities for handling containers (Logistic Cluster, 2024).

The container facilities at the port consists of a 440 m long quay, which allows for berthing of two large vessels simultaneously or a Panama Vessel, with a draft depth of approximately 14 m during minimal tide. The port's container facilities are equipped to attend up to 260,000 twenty-foot equivalent units (TEUs) per year (Logistic Cluster, 2024). The container facilities at the port have approximately 19 hectares (ha) for container storage with a capacity to store up to 8,000 TEU simultaneously (Logistic Cluster, 2024).
Stevedoring operations at the Port of Buenaventura are conducted by private companies and are classified and regulated by the national government.

ICMC transport verification protocol assessment

Transport Practice 1.1: Select cyanide transport routes to minimise the potential for accidents and releases

Orica uses reputable shipping lines for the transportation of sodium cyanide manufactured by Orica or manufactured by third parties on behalf of Orica (Orica, 2024a).

Orica's Sodium Cyanide Transport Management protocol (Orica, 2024a) states that all routes used for sodium cyanide transport must undergo a risk assessment to determine their suitability. If multiple routes are available, each one requires an individual risk assessment. These assessments are conducted in accordance with the Route Risk Assessment (Orica, 2024c) and AS 4360:2004 Risk Management standards. Any risks identified as "extreme" must be prioritised and addressed through the development of an action plan to mitigate these risks as much as possible. The process for documenting the risks associated with selected routes is outlined in the Route Risk Assessment (Orica, 2024c).

Feedback regarding the routes is taken into consideration and forwarded to the Health, Safety & Environment (HS&E) Officer for the necessary updates to the route assessment. This information is also shared with the Orica representative in the relevant region (Orica, 2024a).

In situations where special safety measures or concerns are present, or where escorts are required, compliance with SUP-GLO-PRO-024 is mandatory. Additionally, Carrier Safety Programs should align with the requirements of SUP-GLO-PRO-005 (Orica, 2024a).

The port of Buenaventura is selected on the basis that it is the closest port to the customer and that it meets all reasonable industry standards for safety, security, and emergency response.

Transport Practice 1.5: Follow international standards for transportation of cyanide by sea

Orica's manufacturing facility and transfer stations are ICMC certified, therefore, sodium cyanide is packaged and transported in accordance with international regulatory standards and in line with all requirements of the International Maritime Dangerous Goods Code (IMDG) and the current versions of the United Nations Dangerous Goods Transport Guidelines, the Australian Code for the Transport of Dangerous Goods by Road and Rail and the International Maritime Dangerous Goods Code (Orica, 2024a).

Carriers are required to provide manifest documentation, to satisfy local customs regulations and the requirements of the International Maritime Dangerous Goods (IMDG) Code (IMO, 2024b), to the destination port. The manifest should contain a list of the cargo types and in the case of sodium cyanide and any other hazardous cargo the quantity, unique packaging numbers, stowage reference and emergency response procedures. Assessment of transportation agencies is via the Orica Carrier Assessment Questionnaire found in SUP-GLO-PRO-016, which enables a self-assessment and external assessment. A scoring system is included in this assessment process with minimum standards detailed (Orica, 2024a).

When shipping goods, it is necessary to provide manifest documentation that meets the local customs regulations and the requirements of the International Maritime Dangerous Goods (IMDG) Code (IMO, 2024b) to the destination port. The manifest should include a list of the types of cargo being shipped. In the case of hazardous cargo like sodium cyanide, the manifest should provide information about the quantity, unique packaging numbers, stowage reference and emergency response procedures.

Transport Practice 1.6: Track cyanide shipments to prevent losses during transport

The port is compliant with the International Ship and Port Facility Security Code (Logistic Cluster, 2024).The port Authority organises ship movements, tracks pilotage operations, and supervises terminal operations via real-time Closed-circuit television (CCTV) monitoring.

Chain of custody documentation is used by shipping companies to prevent the loss of cargo during shipment. This documentation includes the vessel manifest which identifies the location and content of each container on the vessel along with packing certificates, Multimodal Dangerous Goods Forms and Safety Data Sheets (SDS) (WSP Australia Pty Ltd, 2023).

Transport Practice 2.1: Store cyanide in a manner that minimises the potential for accidental releases

The port of Buenaventura uses an Access Control System to monitor if the persons entering the port are appropriately identified and to minimise unauthorised access. The Access Control System uses 62 biometric readers, 18 full body and half-body rotating stands, and 23 security fences at vehicle access points which are controlled by a centralised server (Logistic Cluster, 2024).

The port also implements a Perimeter Control System in order to prevent intruders' access through the outside perimeters of the port facilities. The system consists of 4.8 km of sensor cable controlled by 23 processors that interpret the signals received, and then transmit information to the control centre (Logistic Cluster, 2024).

The port of Buenaventura has CCTV to monitor and record all port operations and activities. It has 370 fixed and panning cameras distributed throughout the port and 21 digital recorders to store security events 24 hours/day. The system also includes special equipment for monitoring the internal navigation channel under varying visibility conditions (Logistic Cluster, 2024).

The port has armed security personnel, consisting of approximately 265-armed security guards and 6 patrol units, by land and sea (Logistic Cluster, 2024).

All international maritime regulations International Convention for the Prevention of Pollution from Ships, 1973 as modified by the Protocol of 1978 The International Convention for the Prevention of Pollution from Ships (MARPOL 73/78)] in relation to hydrocarbons, segregation and control of dangerous goods must be complied with at the Port of Buenaventura (IMO, 2024d).

Transport Practice 3.1: Prepare detailed emergency response plans for potential cyanide releases

Colombia has been a Member State of the International Maritime Organization (IMO) member since 1974 (IMO, Member States, 2024a) and complies with the requirements of the IMDG Code (IMO, 2024b).

The port of Buenaventura is certified under the International Convention on Oil Pollution Preparedness, Response and Cooperation, 1990 (OPRC 90) (United Nations, 1995)States which are party to OPRC 90 are required to establish a national system for responding to oil and hazardous/noxious substances pollution incidents, including a designated national authority, a national operational contact point and a national contingency plan. This needs to be supported by a minimum level of response equipment, communications plans, and regular training and exercises (International Tanker Owners Pollution Federation [ITOPF] (ITOPF, 2024).

Conclusion

Based on the evidence reviewed, this due diligence did not find significant issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work; rather it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

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B9 Port of Buenos Aires, Argentina

22 February 2024

PS211281 009. RevA

Author: Megan Wood Approved: Rudi Seebach

Port due diligence executive summary

WSP Pty Ltd (WSP) conducted a due diligence of the Port of Buenos Aires, Argentina during February 2024, on behalf of Orica Australia Pty Ltd (Orica).

The assessment was reviewed by Rudi Seebach who meets the International Cyanide Management Institute's (ICMI) requirements for a Transport Technical Specialist.

The following items, as detailed in the ICMI's Auditor Guidance for Use of the Cyanide Transportation Verification Protocol (ICMI 2021), were addressed within the due diligence:

- Transport Practice 1.1 (Questions 1-4 and 6)
- Transport Practice 1.5 (Question 1)
- Transport Practice 1.6
- Transport Practice 2.1
- Transport Practice 3.1.

The ICMI's *Auditor Guidance for Use of Cyanide Transportation Verification Protocol* (ICMI 2021) was used to conduct the due diligence assessment. It was not possible during this due diligence to physically inspect operations, as such the review was based on information obtained from previous due diligence reviews, ICMI audit reports and publicly available online information. Based on the evidence reviewed, this due diligence did not find issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work. Instead, it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

Overview of the Port of Buenos Aires, Argentina

The port of Buenos Aires is in Retiro ward, Argentina. It is operated by the General ports Administration, a state enterprise, overseen by the Undersecretary for Ports and Waterways, and it is the leading transhipment point for foreign trade in Argentina (Logistics Cluster, 2024).

The New Port Container & Multi-purpose Terminal Operators include Terminales Río de la Plata (TRP) which operates Terminals 1, 2, and 3 and has a 522,300 twenty-foot equivalent units (TEUs), Terminal 4 (AMP) S.A with 159,800 TEUs and BACTSSA (terminal 5, Hutchinson) which is 205,900 TEU (Logistics Cluster, 2024).

The port facility comprises of 16 berthing positions for vessel operations, with 4805 metres quay (Logistics Cluster, 2024). The terminal handles deep-sea vessels from Europe, Asia, and North America, as well as feeders to both the East and West Coast of South America and barges upriver to Rosario.

TRP has International Standards Organization (ISO) 28000 Security Management System for the Supply Chain, ISO 14001 Environmental Management System, ISO 9001 Quality Management System, ISO 50001 Energy Management System, OHSAS 18001 Occupational Health and Safety Management System (Logistics Cluster, 2024).

Port operations include (WSP Australia Pty Ltd, 2023):

- A Harbor Master oversees the overall operation of the Port of Buenos Aires.
- Port protocols and procedures are in place for docking of vessels at the port (e.g.,, use of Pilots and tugboats, management of weather conditions, tides, currents and safety, and general operations of the port). This sees to the safe docking and turnaround of vessels in and out of the port.
- Port entry is controlled by the Pilot who understands the port protocols and any unique issues regarding the approach and docking of vessels at the port. The Ship's Captain works in conjunction with the Pilot as they understand the vessel and can implement and assist with the Pilot's instructions.
- The approach of a vessel to the port will consider channels, navigation points, currents, tides, and weather.
- Once a vessel is secure alongside the wharf, the shipping activities changeover to port activities. The vessel's manifest of what containers are required to be unloaded, including the manifest for containers for loading are handed over. This manifest identifies hazardous cargos and their United Nations (UN) number, classification, and segregation requirements.

Stevedoring operations include (WSP Australia Pty Ltd, 2023):

- The stevedoring company, TRP, manage the onshore (wharf) operations at the dedicated container terminal. This is the terminal currently used by other ICMI accredited transporters to facilitate the unloading of their vessels.
- Handling of the containers whether full or empty on and off the vessels; container storage areas for general cargo, port security, control systems for companies and their vehicles collecting and or delivering containers.
- Software programs that control container placement and movement; these software packages identify each individual container placement area in designated stacks. The input information for the placement of containers comes from the vessel's manifest.

ICMC transport verification protocol assessment

Transport Practice 1.1: Select cyanide transport routes to minimise the potential for accidents and releases

Orica uses reputable shipping lines for the transportation of sodium cyanide manufactured by Orica or manufactured by third parties on behalf of Orica (Orica, 2024a).

Orica's Sodium Cyanide Transport Management protocol (Orica, 2024a) states that all routes used for sodium cyanide transport must undergo a risk assessment to determine their suitability. If multiple routes are available, each one requires an individual risk assessment. These assessments are conducted in accordance with the Route Risk Assessment (Orica, 2024c) and AS 4360:2004 Risk Management standards. Any risks identified as "extreme" must be prioritised and addressed through the development of an action plan to mitigate these risks as much as possible. The process for documenting the risks associated with selected routes is outlined in the Route Risk Assessment (Orica, 2024c).

Feedback regarding the routes is taken into consideration and forwarded to the Health, Safety & Environment (HS&E) Officer for the necessary updates to the route assessment. This information is also shared with the Orica representative in the relevant region (Orica, 2024a).

In situations where special safety measures or concerns are present, or where escorts are required, compliance with SUP-GLO-PRO-024 is mandatory. Additionally, Carrier Safety Programs should align with the requirements of SUP-GLO-PRO-005 (Orica, 2024a).

The port of Buenos Aires is the leading transhipment point for foreign trade into Argentina. The terminal handles deep-sea vessels from Europe, Asia, and North America, as well as being strategically placed to serve as a freight linkage to and from the East and West Coast of South America (WSP Australia Pty Ltd, 2023).

Transport Practice 1.5: Follow international standards for transportation of cyanide by sea

Orica's manufacturing facility and transfer stations are ICMC certified, therefore, sodium cyanide is packaged and transported in accordance with international regulatory standards and in line with all requirements of the International Maritime Dangerous Goods Code (IMDG) and the current versions of the United Nations Dangerous Goods Transport Guidelines, the Australian Code for the Transport of Dangerous Goods by Road and Rail and the International Maritime Dangerous Goods Code (Orica, 2024a).

Carriers are required to provide manifest documentation, to satisfy local customs regulations and the requirements of the International Maritime Dangerous Goods (IMDG) Code (IMO, 2024b), to the destination port. The manifest should contain a list of the cargo types and in the case of sodium cyanide and any other hazardous cargo the quantity, unique packaging numbers, stowage reference and emergency response procedures. Assessment of transportation agencies is via the Orica Carrier Assessment Questionnaire found in SUP-GLO-PRO-016, which enables a self-assessment and external assessment. A scoring system is included in this assessment process with minimum standards detailed (Orica, 2024a).

Argentina is both an International Maritime Organization (IMO) Member State (1953) (IMO 2020, internet site) and a Safety of Life at Sea (SOLAS) Signatory Nation (1979) (IMO, 2024c) thereby requiring the Port of Buenos Aires to adhere to the international regulations for the transportation and handling of dangerous goods as set out in the IMDG Code (Parts 4, 5 and 7) and SOLAS Convention ((1974) Chapter 7) (IMO, 2024b) & (IMO, 2024c).

Transport Practice 1.6: Track cyanide shipments to prevent losses during transport

The Port Authority (AGP) maintains an International Ship and Port Facility Security (ISPS) department responsible for ensuring compliance with ISPS codes and coordinating with security officers and the Coastguard across all terminals, including the cruise terminal. The regulations they adhere to include the International Code for the Protection of Ships and Port Facilities (ISPS code), Ordinance 4/2003 (DPSN), and Law 22079 (Logistics Cluster, 2024).

Their Security and Environmental Control Department, operating under the Quality Management System (ISO 9001), is dedicated to consistently providing and enhancing inspection services to ensure that the Permissions and Concessionaires of the Port Authority (AGP) comply with the legal framework (Logistics Cluster, 2024). In addition, the container storage area at the port has full Closed-circuit television (CCTV) coverage. The terminal adopts a range of strict internal controls and uses state-of-the-art technology to optimise operation and the safety. The ISO 28000 certification (Supply Chain Security Management) was obtained in 2009.

Observations specific to TRP suggest that similar security systems are likely in place at other container terminals. Security measures at TRP include over 200 security cameras, drone surveillance, and a year's worth of video storage. Gates are monitored and guarded, with all entries and exits recorded. Biometric data, including fingerprints, are used for entry and exit through full-body rotating doors. The Cruise Terminal is a part of Terminal Rio De La Plata (DP World), primarily a container terminal. Each terminal has its own separate gate, and there is no main port entry gate.

Chain of custody documentation is used by shipping companies to prevent the loss of cargo during shipment. This documentation includes the vessel manifest which identifies the location and content of each container on the vessel along with packing certificates, Multimodal Dangerous Goods Forms and Safety Data Sheets (SDS) (WSP Australia Pty Ltd, 2023).

Transport Practice 2.1: Store cyanide in a manner that minimises the potential for accidental releases

The Port Authority (AGP) maintains an ISPS department responsible for ensuring compliance with ISPS codes and coordinating with security officers and the Coastguard across all terminals, including the cruise terminal.

The regulations applicable include the International Code for the Protection of Ships and Port Facilities (ISPS code), Ordinance 4/2003 (DPSN), and Law 22079 (Logistics Cluster, 2024).

The Security and Environmental Control Department, under the Quality Management System (ISO) 9001, is dedicated to consistently providing and enhancing inspection services to ensure that the Permissions and Concessionaires of the Port Authority (AGP) comply with the legal framework.

The following details pertain specifically to TRP, but similar security systems are likely in place at other container terminals. Port visits can be arranged directly with the terminal operator without the need for advance provision of full name and identification details. The port employs over 200 security cameras, drones for aerial surveillance, and stores video footage for 365 days (Logistics Cluster, 2024). Gates are monitored (CCTV), guarded (guards with radio), and all entries and exits are recorded. Entry and exit procedures involve fingerprinting, biometrics, and full body rotating doors. The Cruise Terminal is a part of Terminal Rio De La Plata (DP World), primarily functioning as a container terminal. Helmets and vests are provided for terminal entry. Each terminal has its own separate gates, and there is no main port entry gate.

Container Terminal Certifications:

- TRP: ISO 28000 (Security Management System for the Supply Chain), ISO 14001 (Environmental Management System), ISO 9001 (Quality Management System), ISO 50001 (Energy Management System), OHSAS 18001 (Occupational Health and Safety Management System).
- TERMINAL 4: ISO 9001:2015
- BACTSSA: ISO 9001, ISO 14001, ISO 27001

Transport Practice 3.1: Prepare detailed emergency response plans for potential cyanide releases

Argentina has been a Member State of the IMO Member since 1953 (IMO, Member States, 2024a) and complies with the requirements of the IMDG Code (IMO, 2024b).

The port of Buenos Aires is certified under the International Convention on Oil Pollution Preparedness, Response and Cooperation, 1990 (OPRC 90) (United Nations, 1995). States which are party to OPRC 90 are required to establish a national system for responding to oil and hazardous/noxious substances pollution incidents, including a designated national authority, a national operational contact point and a national contingency plan. This needs to be supported by a minimum level of response equipment, communications plans, and regular training and exercises (ITOPF, 2024).

The Prefectura Naval Argentina (PNA) is the competent authority (specifically the Directorate for Environmental Protection) and administers the National Contingency Plan (NCP) for dealing with pollution by oil and other noxious substances in marine and freshwater environments. The PNA consists of two branches, one deals with policy and implementing the international Conventions, the other has an operational role and is responsible for planning and responding to pollution incidents. This department has 19 Rescue, Firefighting and Environmental Protection stations located in Argentina's principal ports (ITOPF, 2024).

The PNA, with the support of private contractors, manages the response to and monitoring of a Hazardous and Noxious Substances (HNS) incident and some equipment is readily available (such as PPE, respirators, pumps, power packs and air monitoring equipment). The PNA is currently engaged in a programme of training and exercises in preparation for spills of both oil and HNS (ITOPF, 2024).

Conclusion

Based on the evidence reviewed, this due diligence did not find significant issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work; rather it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

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B10 Port of Burnie, Australia

27 February 2024

PS211281 010. RevA

Author: Megan Wood Approved: Rudi Seebach

Port due diligence executive summary

WSP Pty Ltd (WSP) conducted a due diligence of the Port of Burnie, Australia during February 2024 on behalf of Orica Australia Pty Ltd (Orica).

The assessment was reviewed by Rudi Seebach who meets the International Cyanide Management Institute's (ICMI) requirements for a Transport Technical Specialist.

The following items, as detailed in the ICMI's Auditor Guidance for Use of the Cyanide Transportation Verification Protocol (ICMI 2021), were addressed within the due diligence:

- Transport Practice 1.1 (Questions 1-4 and 6)
- Transport Practice 1.5 (Question 1)
- Transport Practice 1.6
- Transport Practice 2.1
- Transport Practice 3.1.

The ICMI's *Auditor Guidance for Use of Cyanide Transportation Verification Protocol* (ICMI 2021) was used to conduct the due diligence assessment. It was not possible during this due diligence to physically inspect operations, as such the review was based on information obtained from previous due diligence reviews, ICMI audit reports and publicly available online information. Based on the evidence reviewed, this due diligence did not find issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work. Instead, it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

Overview of the Port of Burnie, Australia

The Port of Burnie is located on the western shore of Emu Bay, Tasmania. The port services Tasmania's major West Coast mines and handles most types of bulk shipping requirements including, minerals, fuels, woodchips and logs, as well as containerised consumables and heavy-lift project cargo (Seabay Logistics, 2024). There are four berths and several storage facilities available.

Owned and operated by the Tasmanian ports Corporation Pty Ltd (Tasports), the Port of Burnie is one of Tasmania's key deep-water ports and the State's largest general cargo port. Tasports is a registered, private company fully owned by the Tasmanian Government. Each year more than five million tonnes of general freight and more than 50% of Tasmania's containerised freight are transited through the port (Tasports, 2024a).

Marine and Safety Tasmania (MAST) and the Crown engage Tasports, under a Deed of Agreement, to perform specific functions within primary and secondary port areas under the *Marine and Safety Authority Act 1997*, Marine and Safety (Pilotage and Navigation) Regulations 2017 and *Pollution Waters by Oil and Noxious Substances Act 1987*, including provision of pilotage services, regulation enforcement in pilotage areas, maintenance of navigation aids, maintenance of a communications system, provision of emergency response, and provision of a response to marine based pollution (Tasport, 2024b).

Port operations include (WSP Australia Pty Ltd, 2023):

- The approach of a vessel to the port will consider channels, navigation points, currents, tides, and weather.
- Port entry is controlled by the Pilot who understands the port protocols and any unique issues regarding the approach and docking of vessels at the port. The Ship's Captain works in conjunction with the Pilot as they understand the vessel and can implement and assist with the Pilot's instructions.
- Port protocols and procedures are in place for docking of vessels at the port (e.g.,, use of Pilots and tugboats, management of weather conditions, tides, currents and safety, and general operations of the port). This sees to the safe docking and turnaround of vessels in and out of the port.
- Once a vessel is secure alongside the wharf, the shipping activities changeover to port activities. The vessel's manifest of what containers are required to be unloaded, including the manifest for containers for loading are handed over. This manifest identifies hazardous cargos and their United Nations (UN) number, classification, and segregation requirements.

Third party stevedoring companies manage the onshore (wharf) operations at the dedicated container terminal. There are multiple deep water berths and the port currently handles hazardous cargoes of most categories. Stevedoring operations include:

- Handling of the containers whether full or empty on and off the vessels; container storage areas for general cargo, port security, control systems for companies and their vehicles collecting and or delivering containers.
- Software programs that control container placement and movement; these software packages identify each individual container placement area in designated stacks. The input information for the placement of containers comes from the vessel's manifest.

ICMC transport verification protocol assessment

Transport Practice 1.1: Select cyanide transport routes to minimise the potential for accidents and releases

Orica uses reputable shipping lines for the transportation of sodium cyanide manufactured by Orica or manufactured by third parties on behalf of Orica (Orica, 2024a).

Orica's Sodium Cyanide Transport Management protocol (Orica, 2024a) states that all routes used for sodium cyanide transport must undergo a risk assessment to determine their suitability. If multiple routes are available, each one requires an individual risk assessment. These assessments are conducted in accordance with the Route Risk Assessment (Orica, 2024c) and AS 4360:2004 Risk Management standards. Any risks identified as "extreme" must be prioritised and addressed through the development of an action plan to mitigate these risks as much as possible. The process for documenting the risks associated with selected routes is outlined in the Route Risk Assessment (Orica, 2024c).

Feedback regarding the routes is taken into consideration and forwarded to the Health, Safety & Environment (HS&E) Officer for the necessary updates to the route assessment. This information is also shared with the Orica representative in the relevant region (Orica, 2024a).

In situations where special safety measures or concerns are present, or where escorts are required, compliance with SUP-GLO-PRO-024 is mandatory. Additionally, Carrier Safety Programs should align with the requirements of SUP-GLO-PRO-005 (Orica, 2024a).

The port of Burnie is directly connected to an intermodal rail facility which allows for containerised freight to be railed safely and efficiently to industry use in the hinterland, Launceston, and Hobart.

Transport Practice 1.5: Follow international standards for transportation of cyanide by sea

Orica's manufacturing facility and transfer stations are ICMC certified, therefore, sodium cyanide is packaged and transported in accordance with international regulatory standards and in line with all requirements of the International Maritime Dangerous Goods Code (IMDG) and the current versions of the United Nations Dangerous Goods Transport Guidelines, the Australian Code for the Transport of Dangerous Goods by Road and Rail and the International Maritime Dangerous Goods Code (Orica, 2024a).

Carriers are required to provide manifest documentation, to satisfy local customs regulations and the requirements of the International Maritime Dangerous Goods (IMDG) Code (IMO, 2024b), to the destination port. The manifest should contain a list of the cargo types and in the case of sodium cyanide and any other hazardous cargo the quantity, unique packaging numbers, stowage reference and emergency response procedures. Assessment of transportation agencies is via the Orica Carrier Assessment Questionnaire found in SUP-GLO-PRO-016, which enables a self-assessment and external assessment. A scoring system is included in this assessment process with minimum standards detailed (Orica, 2024a).

Australia is an International Maritime Organization (IMO) Member State (1952) (IMO, Member States, 2024a) and a Safety of Life at Sea (SOLAS) Signatory Nation (1983) (IMO, 2024c) thereby requiring the Port of Burnie to adhere to the international regulations for the transportation and handling of dangerous goods as set out in the IMDG Code (Parts 4, 5 and 7) (IMO, 2024b) and the SOLAS Convention 1974 (Chapter 7) (IMO, 2024c).

Transport Practice 1.6: Track cyanide shipments to prevent losses during transport

The Dispatch Centre organises ship movements, tracks pilotage operations, and supervises terminal operations via real-time closed-circuit television (CCTV) monitoring. At any time, there may be several restricted zones in and around the port that will be managed by security guards and additional fencing. They are established around certain activities such as international ships and in accordance with the maritime security regulations (Tasports, 2024c).

Carriers are required to provide manifest documentation, to satisfy local customs regulations and the requirements of the IMDG Code, to the destination port. This documentation contains a list of the cargo types and in the case of sodium cyanide and any other hazardous cargo the quantity, unique packaging numbers, stowage reference and emergency response procedures (IMO, 2024b).

Chain of custody documentation is used by shipping companies to prevent the loss of cargo during shipment. This documentation includes the vessel manifest which identifies the location and content of each container on the vessel along with packing certificates, Multimodal Dangerous Goods Forms and Safety Data Sheets (WSP Australia Pty Ltd, 2023).

Transport Practice 2.1: Store cyanide in a manner that minimises the potential for accidental releases

The security control measures for the Port of Burnie are implemented in line with the requirements of the *Maritime Transport and Offshore Facilities Security Act (MTOFSA) 2003* (Australian Government 2020, internet site). A security regulated port is defined by an area that is used for movement, loading, unloading, maintenance or provisioning of security regulated ships. These areas are fenced with signage that indicates the access restrictions to port facilities and other maritime security zones within the port (Tasports, 2024c).

Safe Work Australia's (2012) Code of Practice for Managing Risks of Hazardous Chemicals in the Workplace provides guidance for spill containment requirements for dangerous goods storage facilities/areas. Occupiers storing and handling dangerous goods must ensure that in each area where dangerous goods are stored or handled, provision is made for spill containment that will eliminate the risk from any spill or leak of solid or liquid dangerous goods and must also be able to contain within the premises, the dangerous goods that have been spilled or leaked and any solid or liquid effluent arising from an incident (Safe Work Australia, 2012).

Transport Practice 3.1: Prepare detailed emergency response plans for potential cyanide releases

The Port of Burnie is certified under the IMO's International Convention on Oil Pollution Preparedness, Response and Cooperation 1990 (OPRC 90) (United Nations, 1995). States which are party to OPRC 90 protocol are required to establish a national system for responding to oil and hazardous/noxious substances pollution incidents, including a designated national authority, a national operational contact point and a national contingency plan. This needs to be supported by a minimum level of response equipment, communications plans, and regular training and exercises.

Australian Maritime Safety Authority (AMSA), a federal government self-funded maritime safety agency established in 1990, is responsible for providing a national response capability for marine pollution. AMSA administers the *National Plan to Combat Pollution of the Sea by Oil and other Noxious and Hazardous Substances*, a cooperative arrangement between the Federal, State and Territory Governments and the shipping, oil, exploration and chemical industries, emergency services and fire brigades (ITOPF, 2024).

Under National Plan arrangements, a wide strategic range of response equipment is held at nine regional stockpiles (ITOPF, 2024). Equipment provided by AMSA is generally targeted at larger spills, though this is complemented by equipment held by port authorities, State Governments and individual oil and chemical companies.

Safe Work Australia's (2012) Code of Practice for Managing Risks of Hazardous Chemicals in the Workplace, specifically Regulation 43 and Regulation 361, requires an operation to prepare an emergency plan for the workplace. An emergency plan must be prepared and provided to the emergency services organisation if the quantity of Schedule 11 hazardous chemicals (hazardous chemicals, as specified in the Australian Workplace Health and Safety Regulations) used, handled, or stored at a workplace exceeds the manifest quantity for that hazardous chemical. The operation must revise the plan in accordance with any recommendations the primary emergency services organisation provides about its effectiveness (Safe Work Australia, 2012).

Conclusion

Based on the evidence reviewed, this due diligence did not find significant issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work; rather it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

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B11 Port of Busan, South Korea

7 March 2024

PS211281 011. RevA

Author: Megan Wood Approved: Rudi Seebach

Port due diligence executive summary

WSP Pty Ltd (WSP) conducted a due diligence of the Port of Busan, South Korea during March 2024 on behalf of Orica Australia Pty Ltd (Orica).

The assessment was reviewed by Rudi Seebach who meets the International Cyanide Management Institute's (ICMI) requirements for a Transport Technical Specialist.

The following items, as detailed in the ICMI's Auditor Guidance for Use of the Cyanide Transportation Verification Protocol (ICMI 2021), were addressed within the due diligence:

- Transport Practice 1.1 (Questions 1-4 and 6)
- Transport Practice 1.5 (Question 1)
- Transport Practice 1.6
- Transport Practice 2.1
- Transport Practice 3.1.

The ICMI's *Auditor Guidance for Use of Cyanide Transportation Verification Protocol* (ICMI 2021) was used to conduct the due diligence assessment. It was not possible during this due diligence to physically inspect operations, as such the review was based on information obtained from previous due diligence reviews, ICMI audit reports and publicly available online information. Based on the evidence reviewed, this due diligence did not find issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work. Instead, it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

Overview of the Port of Busan, South Korea

The port of Busan is located at the mouth of the Naktong River in South Korea. It is the fifth busiest container port in the world and the largest transhipment port in north-east Asia (Ship Technology, 2024). The port of Busan is subdivided into Busan North Port, Jaseongdae Container Terminal, Busan New Port, Southport, Gamcheon Port, Dadaepo Port and Busan International Passenger Terminal (Marine Insight, 2024).

The Busan port Authority (BPA), established in 2004, is responsible for developing, managing, and operating the Port of Busan. The BPA's jurisdiction extends to Gamcheon port, which supplements the Port of Busan, and Busan New port on Gaduk Island) (Busan Port Authority, 2024).

The port of Busan is a vital gateway for Korea, connecting the country to the Pacific Ocean and Asia. It is Korea's main port, handling 40% of the country's overseas cargo and 80% of its container cargo. Approximately 130 international vessels enter the port daily (Ship Technology, 2024).

Annual figures from 2022 show that the Port of Busan handled more than 22 million Twenty-foot Equivalent Units (TEUs) in a 12-month period (Busan Port Authority, 2024).

There are four modern ports, Port, South Port, Gamcheon and Dadaepo Port, an international passenger terminal and six container terminals allowing for 91 million tonnes per annum (Ship Technology, 2024).

Port operations include (WSP Australia Pty Ltd, 2023):

- The approach of the vessels to the port will consider channels, special navigation points, currents, tides, and weather.
- Port protocols exist for docking of vessels (e.g.,, use of Pilots and tugboats, management of different weather conditions, tides, currents and safety and general port operations), which support the safe docking and turnaround of vessels in and out of the port.
- Entry into the port is controlled by the port's Pilot who understands the port protocols and any unique issues regarding the approach and docking of a vessel at the port. The Ship's Captain works in conjunction with the Pilot as they understand the vessel and can implement and assist with the Pilot's instructions.
- Once a vessel is secure alongside the wharf, the shipping activities changeover to port activities. The vessel's manifest of what containers are required to be unloaded, including the manifest for containers for loading are handed over. This manifest identifies hazardous cargos and their United Nations (UN) number, classification, and segregation requirements.

Third party stevedoring companies manage the different onshore terminal operations at the dedicated container terminals. Stevedoring operations include (WSP Australia Pty Ltd, 2023):

- Handling of containers whether full or empty on and off the vessels; container storage areas for general cargo, port security, control systems for companies and their vehicles, and collecting and/or delivering containers.
- Software programs that control container placement and movement; these software packages identify each individual container placement area in designated stacks. The input information for the placement of containers originates from the vessel's manifest.

ICMC transport verification protocol assessment

Transport Practice 1.1: Select cyanide transport routes to minimise the potential for accidents and releases

Orica uses reputable shipping lines for the transportation of sodium cyanide manufactured by Orica or manufactured by third parties on behalf of Orica (Orica, 2024a).

Orica's Sodium Cyanide Transport Management protocol (Orica, 2024a) states that all routes used for sodium cyanide transport must undergo a risk assessment to determine their suitability. If multiple routes are available, each one requires an individual risk assessment. These assessments are conducted in accordance with the Route Risk Assessment (Orica, 2024c) and AS 4360:2004 Risk Management standards. Any risks identified as "extreme" must be prioritised and addressed through the development of an action plan to mitigate these risks as much as possible. The process for documenting the risks associated with selected routes is outlined in the Route Risk Assessment (Orica, 2024c).

Feedback regarding the routes is taken into consideration and forwarded to the Health, Safety & Environment (HS&E) Officer for the necessary updates to the route assessment. This information is also shared with the Orica representative in the relevant region (Orica, 2024a).

In situations where special safety measures or concerns are present, or where escorts are required, compliance with SUP-GLO-PRO-024 is mandatory. Additionally, Carrier Safety Programs should align with the requirements of SUP-GLO-PRO-005 (Orica, 2024a).

The port of Busan is located in relatively close proximity to cyanide manufacturers, is connected to a well-developed intermodal transportation system consisting of railways, highways, waterways and pipelines, and is serviced by shipping companies that have routes to over 600 ports in 180 countries, including routes through the Asia-Pacific region (WSP Australia Pty Ltd, 2023).

Transport Practice 1.5: Follow international standards for transportation of cyanide by sea

Orica's manufacturing facility and transfer stations are ICMC certified, therefore, sodium cyanide is packaged and transported in accordance with international regulatory standards and in line with all requirements of the International Maritime Dangerous Goods Code (IMDG) and the current versions of the United Nations Dangerous Goods Transport Guidelines, the Australian Code for the Transport of Dangerous Goods by Road and Rail and the International Maritime Dangerous Goods Code (Orica, 2024a).

Carriers are required to provide manifest documentation, to satisfy local customs regulations and the requirements of the International Maritime Dangerous Goods (IMDG) Code (IMO, 2024b) to the destination port. The manifest should contain a list of the cargo types and in the case of sodium cyanide and any other hazardous cargo the quantity, unique packaging numbers, stowage reference and emergency response procedures.

South Korea is an International Maritime Organization (IMO) Member State (1986) (IMO, Member States, 2024a) and a Safety of Life at Sea (SOLAS) Signatory Nation (1985) (IMO, 2024c), thereby requiring the Port of Busan to adhere to the international regulations for the transportation and handling of dangerous goods as set out in the IMDG Code (Parts 4, 5 and 7) (IMO 2018) and the SOLAS Convention 1974 (Chapter 7) (IMO, 2024b) & (IMO, 2024c).

Transport Practice 1.6: Track cyanide shipments to prevent losses during transport

The BPA coordinates the operation of the Port of Busan and must be informed of all ship movements and major operations. The production schedule (ship movement plan) is maintained by the BPA in consultation with the wharf operators. The BPA coordinates ship movements, tracks pilotage operations, and supervises terminal operations via real-time closed-circuit television (CCTV) monitoring. The BPA is responsible for enforcing regulations on behalf of the Ministry of Oceans and Fisheries (MOF) at the Port of Busan including inspecting containers holding dangerous goods (WSP Australia Pty Ltd, 2023).

The port authorities have implemented the International Ship and Port Facility Code (ISPS Code) for security of ships and port facilities (Ship Technology, 2024). As a SOLAS signatory nation, it is obligation to transmit Long-Range Identification and Tracking (LRIT) information. This system provides global identification and tracking of ships for security, safety and protection of marine environment (IMO, 2024c).

Vessels arriving at or departing from the Port of Busan are required to declare dangerous cargo to the BPA by submitting a Transport Document for Goods by Sea (Package) form. This documentation is accompanied by the vessel's manifest and Safety Data Sheets (SDSs), which identifies the location and content of each container on the vessel, including containers with cyanide and other dangerous goods. The relevant port stevedoring company receives the vessels manifest which includes the containers for unloading and handling by them. This information is then captured in the stevedore's management systems which assists with the location where each container from the vessel is to be placed after unloading (WSP Australia Pty Ltd, 2023).

Transport from the unloading berth to the interim storage facility is controlled by documentary checks detailing the container details and the containers contents (WSP Australia Pty Ltd, 2023).

Transport Practice 2.1: Store cyanide in a manner that minimises the potential for accidental releases

The port and vessel security are managed through the International Ship and Port Facility Security Code (ISPS Code). The ISPS Code is a comprehensive set of measures to enhance security of ships and port facilities.

The purpose of the ISPS Code is to provide a standardised, consistent framework for evaluating risk, enabling Governments to offset changes in threat with changes in vulnerability for ships and port facilities through determination of appropriate security levels and corresponding security measures (IMO, SOLAS XI-2 and the ISPS Code, 2024). The ISPS Code takes the approach that ensuring the security of ships and port facilities is a risk management activity and that, to determine what security measures are appropriate, an assessment of the risks must be made in each case.

The port operations for dangerous goods are registered and licensed by the government. Containers departing the port are checked against documentation for matching container numbers and product detail (WSP Australia Pty Ltd, 2023).

The port of Busan has dedicated dangerous goods areas for hazardous goods awaiting loading to arriving vessels. The port is not used for the interim storage of cyanide as it is a transhipping depot used to transfer cyanide containers from trucks to ships.

The cyanide product is packed initially into intermediate bulk containers and then into sealed shipping containers for transport to the Port of Busan's Korail Interim Storage Facility where it is stored in a dedicated Dangerous Goods storage facility located in a secure rail shunting yard, pending shipment. All sodium cyanide remains sealed within containers preventing contact with water and other incompatible materials (WSP Australia Pty Ltd, 2023).

Transport Practice 3.1: Prepare detailed emergency response plans for potential cyanide releases

In January 2000 the National Maritime Police Agency (MPA) prepared the National Disaster Prevention Master Plan to provide for response to emergencies in the marine environment (ITOPF, 2024). The MPA is now called the Korea Coast Guard (KCG), a South Korean law enforcement sub-agency responsible for maritime safety and control off the coast. Established in 2017, the KCG is an independent and external branch of Ministry of Maritime Affairs and Fisheries. The KCG has overall responsibility for marine pollution response in Republic of Korea waters. It has five regional Coast Guard headquarters (Donghae, Busan, Mokpo, Incheon, and Jeju) (ITOPF, 2024).

The KCG, with the support of private contractors, manages the response to and monitoring of a Hazardous and Noxious Substances (HNS) incident and some equipment is readily available (such as PPE, respirators, pumps, power packs and air monitoring equipment).

Republic of Korea has been a Member State of the IMO Member since (IMO, Member States, 2024a) and complies with the requirements of the IMDG Code (IMO, 2024b).

The port of Busan is certified under the International Convention on Oil Pollution Preparedness, Response and Cooperation, 1990 (OPRC 90) (United Nations, 1995). States which are party to OPRC 90 are required to establish a national system for responding to oil and hazardous/noxious substances pollution incidents, including a designated national authority, a national operational contact point and a national contingency plan. This needs to be supported by a minimum level of response equipment, communications plans, and regular training and exercises (ITOPF, 2024).

Conclusion

Based on the evidence reviewed, this due diligence did not find significant issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work; rather it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

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B12 Port of Callao, Peru

7 March 2024

PS211281 012. RevA

Author: Megan Wood   Approved: Rudi Seebach

Port due diligence executive summary

WSP Pty Ltd (WSP) conducted a due diligence of the Port of Callao, Peru during March 2024 on behalf of Orica Australia Pty Ltd (Orica).

The assessment was reviewed by Rudi Seebach who meets the International Cyanide Management Institute's (ICMI) requirements for a Transport Technical Specialist.

The following items, as detailed in the ICMI's Auditor Guidance for Use of the Cyanide Transportation Verification Protocol (ICMI 2021), were addressed within the due diligence:

- Transport Practice 1.1 (Questions 1-4 and 6)
- Transport Practice 1.5 (Question 1)
- Transport Practice 1.6
- Transport Practice 2.1
- Transport Practice 3.1.

The ICMI's *Auditor Guidance for Use of Cyanide Transportation Verification Protocol* (ICMI 2021) was used to conduct the due diligence assessment. It was not possible during this due diligence to physically inspect operations, as such the review was based on information obtained from previous due diligence reviews, ICMI audit reports and publicly available online information. Based on the evidence reviewed, this due diligence did not find issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work. Instead, it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

Overview of the Port of Callao, Peru

The port of Callao is Peru's main commercial seaport and located 15 kilometres from the country's capital Lima, the managing company is DP World Callao (Seabay Logistics, 2024).

There are 29 berths for exports and imports including maize, rice, wheat, fuel, sugar, grain, solid fuel, motor vehicles and spare parts, vegetable oils, cereals, iron and steel, dried chemicals, liquid chemicals, gas and liquefied products, wheat flour and passengers (Seabay Logistics, 2024).

During 2020, the main companies that generated container traffic were the shipping lines Hapag-Lloyd, Compagnie Maritime d'Affrètement and Compagnie Générale Maritime (CMA CGM), China Shipping Container Line, and Evergreen (Logistics Cluster, 2024). The North Terminal, operated by APM terminals, handles various goods and is undergoing expansion. The South Terminal, operated by DP World Callao, deals with containers (Seabay Logistics, 2024).

The port of Callao Harbour Master oversees all port operations. This includes:

- Management of port protocols for vessel docking

- Entry via port Pilots
- Vessel approaches
- Shipping activities to port activities changeover.

Stevedoring operations include:

- Handling of full/empty containers on and off vessels, container storage areas for general cargo, port security, etc.
- Management programmes for container placement and movement including identification of hazardous cargoes.

ICMC transport verification protocol assessment

Transport Practice 1.1: Select cyanide transport routes to minimise the potential for accidents and releases

Orica uses reputable shipping lines for the transportation of sodium cyanide manufactured by Orica or manufactured by third parties on behalf of Orica (Orica, 2024a).

Orica's Sodium Cyanide Transport Management protocol (Orica, 2024a) states that all routes used for sodium cyanide transport must undergo a risk assessment to determine their suitability. If multiple routes are available, each one requires an individual risk assessment. These assessments are conducted in accordance with the Route Risk Assessment (Orica, 2024c) and AS 4360:2004 Risk Management standards. Any risks identified as "extreme" must be prioritised and addressed through the development of an action plan to mitigate these risks as much as possible. The process for documenting the risks associated with selected routes is outlined in the Route Risk Assessment (Orica, 2024c).

Feedback regarding the routes is taken into consideration and forwarded to the Health, Safety & Environment (HS&E) Officer for the necessary updates to the route assessment. This information is also shared with the Orica representative in the relevant region (Orica, 2024a).

In situations where special safety measures or concerns are present, or where escorts are required, compliance with SUP-GLO-PRO-024 is mandatory. Additionally, Carrier Safety Programs should align with the requirements of SUP-GLO-PRO-005 (Orica, 2024a).

The port of Callao is selected on the basis that it is the closest port to the customer that meets all reasonable industry standards for safety, security, and emergency response.

Transport Practice 1.5: Follow international standards for transportation of cyanide by sea

Orica's manufacturing facility and transfer stations are ICMC certified, therefore, sodium cyanide is packaged and transported in accordance with international regulatory standards and in line with all requirements of the International Maritime Dangerous Goods Code (IMDG) and the current versions of the United Nations Dangerous Goods Transport Guidelines, the Australian Code for the Transport of Dangerous Goods by Road and Rail and the International Maritime Dangerous Goods Code (Orica, 2024a).

Carriers are required to provide manifest documentation, to satisfy local customs regulations and the requirements of the International Maritime Dangerous Goods (IMDG) Code (IMO, 2024b), to the destination port. The manifest should contain a list of the cargo types and in the case of sodium cyanide and any other hazardous cargo the quantity, unique packaging numbers, stowage reference and emergency response procedures. Assessment of transportation agencies is via the Orica Carrier Assessment Questionnaire found in SUP-GLO-PRO-016, which enables a self-assessment and external assessment. A scoring system is included in this assessment process with minimum standards detailed (Orica, 2024a).

Peru is an International Maritime Organization (IMO) Member State (1968) (IMO, Member States, 2024a) and a Safety of Life at Sea (SOLAS) Signatory Nation (1979) (IMO, 2024c), thereby requiring the Port of Callao to adhere to the international regulations for the transportation and handling of dangerous goods as set out in the IMDG Code (Parts 4, 5 and 7) and the SOLAS Convention 1974 (Chapter 7) (IMO, 2024b) & (IMO, 2024c).

Transport Practice 1.6: Track cyanide shipments to prevent losses during transport

Port Operators DP World Callao and Autoridad Portuaria Nacional (APN) administer seaports in Peru and is attached to the Ministry of Transport and Communications (IAPH, 2024).

As an IMO Member State and to comply with the IMDG Code, vessels are required to declare dangerous cargo before arriving at or leaving the port, to the APN or relevant managing authority.

Chain of custody documentation is used by shipping companies to prevent the loss of cargo during shipment. This documentation includes the vessel manifest which identifies the location and content of each container on the vessel along with packing certificates, Multimodal Dangerous Goods Forms, and Safety Data Sheets (WSP Australia Pty Ltd, 2023).

All transhipping operations are carried out in dedicated dangerous goods areas by suitably trained personnel. The transhipping operations are monitored by the port’s closed-circuit television (CCTV) system and the containers are tracked using GPS to record the positioning of the containers within the dangerous goods storage areas (WSP Australia Pty Ltd, 2023).

As a SOLAS signatory nation, it is obligated to transmit Long-Range Identification and Tracking (LRIT) information. This system provides global identification and tracking of ships for security, safety and protection of marine environment (IMO, 2024c).

Transport Practice 2.1: Store cyanide in a manner that minimises the potential for accidental releases

The National Superintendence of Customs and Tax Administration (SUNAT) Customs office is inside the Port of Callao. The Maritime Customs provides customs services throughout the year, the port works 24 hours every day of the year (Logistics Cluster, 2024)

Containers are placarded in accordance with IMDG labelling requirements and storage areas show relevant signage regarding no smoking, no open flames, eating, and drinking is not permitted and the personal protective equipment requirements (IMO, 2024b).

During transhipping, manifests are handed over from the vessel to the terminal operators which include the weight and any hazards associated with the containers. This information is captured in the terminal operator’s computer systems, which can identify dangerous goods consignments, determine the class of dangerous goods, and establish the segregation requirements for that product as required by the IMDG Code (WSP Australia Pty Ltd, 2023).

Containers are stored at the port with adequate ventilation to prevent build-up of hydrogen cyanide gas. The product remains sealed in containers at all times and the area of storage is suitable to effectively contain any spillage that may occur. Local specialised responders are on hand to provide assistance in the event of a serious incident (WSP Australia Pty Ltd, 2023).

Transhipping depots and interim storage sites are associated with the Port of Callao. During unloading, containers of cyanide may be stored temporarily in designated transhipping depots within the confines of the port. These depots are managed and administered by the terminal operators DP World and or APN respectively.

APM Terminals Callao's Temporary Deposit will handles cargo according to the permitted current regulations, including Imports, Exports, Transshipment (mode 3), and re-embarkation (APM Terminals, 2024).

Transport Practice 3.1: Prepare detailed emergency response plans for potential cyanide releases

Peru has been a member State of the IMO Member since 1968, it complies with the requirements of the IMDG Code.

Peru is certified under the IMO's International Convention on Oil Pollution Preparedness, Response and Co-operation 1990 (United Nations, 1995). States which are party to OPRC 90 protocol are required to establish a national system for responding to oil and hazardous/noxious substances pollution incidents, including a designated national authority, a national operational contact point and a national contingency plan. This needs to be supported by a minimum level of response equipment, communications plans, regular training, and exercises (ITOPF, 2024).

Previous due diligence assessments indicate that safety and security measures are present throughout the port, including upon entry and exiting of the port. The due diligence ascertained the port has suitable procedures and resources in place for handling emergency situations.

Conclusion

Based on the evidence reviewed, this due diligence did not find significant issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work; rather it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

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B13 Port of Cartagena, Colombia

27 February 2024

PS211281 013. RevA

Author: Megan Wood Approved: Rudi Seebach

Port due diligence executive summary

WSP Pty Ltd (WSP) conducted a due diligence of the Port of Cartagena, Colombia during February 2024 on behalf of Orica Australia Pty Ltd (Orica).

The assessment was reviewed by Rudi Seebach who meets the International Cyanide Management Institute's (ICMI) requirements for a Transport Technical Specialist.

The following items, as detailed in the ICMI's Auditor Guidance for Use of the Cyanide Transportation Verification Protocol (ICMI 2021), were addressed within the due diligence:

- Transport Practice 1.1 (Questions 1-4 and 6)
- Transport Practice 1.5 (Question 1)
- Transport Practice 1.6
- Transport Practice 2.1
- Transport Practice 3.1.

The ICMI's *Auditor Guidance for Use of Cyanide Transportation Verification Protocol* (ICMI 2021) was used to conduct the due diligence assessment. It was not possible during this due diligence to physically inspect operations, as such the review was based on information obtained from previous due diligence reviews, ICMI audit reports and publicly available online information. Based on the evidence reviewed, this due diligence did not find issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work. Instead, it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

Overview of the Port of Cartagena, Colombia

The port of Cartagena lies on the northern shores of Cartagena Bay on the northern Caribbean shores of Colombia in South America. The port is strategically placed to capture sea traffic through the Panama Canal's transoceanic shipping lanes that connect the Atlantic and Pacific Ocean's Sea traffic and other traffic around the Caribbean Sea (Logistics Cluster, 2024).

The Sociedad Portuaria Regional de Cartagena S.A. is the port Authority for the Port of Cartagena (Cogoport, 2024). The port of Cartagena offers large scale maritime, cargo (container, refrigerated, automobile, loose and dangerous goods), logistic and cruise ship services and is capable of handling 4 million twenty-foot equivalent units (TEUs) per year, with plans to expand to 5.2 million TEUs capacity (Logistics Cluster, 2024).

The Port of Cartagena Group is the main logistics platform in the Caribbean (Puerto Cartagena, 2024a). The principal container management port incorporates two container terminals, Sociedad Portuaria Regional Cartagena (SPRC) and Contecar. The SPRC terminal has an annual capacity of 1.8 million TEUs and handles ships up to 14,000 TEUs. It has a dock depth of 15.5 m, contains one 700 m longitudinal pier for ships up to 150,000 deadweight tonnes (DWT) and two jetties (186 m and 202 m) for feeder ships (Puerto Cartagena, 2024a). As a strategic connection centre for shipping lines, the SPRC terminal can receive five Super Post Panamax ships simultaneously. The SPRC terminal utilises up to 6 ship-to-shore gantry cranes with a 22-container span and twinlift capacity for simultaneous unloading of two 20 ft containers, The storage yard area is approximately 15 ha, with over 28,000 storage cells for containers, stacked up to 6 high (Puerto Cartagena, 2024a).

The Contecar terminal has an annual capacity of approximately 3.2 million TEUs and handles ships up to 14,000 TEUs (Puerto Cartagena, 2024a). It has a dock depth of 16.5 m, contains one 1,000 m longitudinal pier. The Contecar terminal utilises 13 STS gantry cranes with a 22-container span and twinlift capacity for simultaneous unloading of two 20 ft containers. The storage yard area is approximately 40 hectares with 56, 000 container storge cells stacked up to 6 high (Puerto Cartagena, 2024a).

ICMC transport verification protocol assessment

Transport Practice 1.1: Select cyanide transport routes to minimise the potential for accidents and releases

Orica uses reputable shipping lines for the transportation of sodium cyanide manufactured by Orica or manufactured by third parties on behalf of Orica (Orica, 2024a).

Orica's Sodium Cyanide Transport Management protocol (Orica, 2024a) states that all routes used for sodium cyanide transport must undergo a risk assessment to determine their suitability. If multiple routes are available, each one requires an individual risk assessment. These assessments are conducted in accordance with the Route Risk Assessment (Orica, 2024c) and AS 4360:2004 Risk Management standards. Any risks identified as "extreme" must be prioritised and addressed through the development of an action plan to mitigate these risks as much as possible. The process for documenting the risks associated with selected routes is outlined in the Route Risk Assessment (Orica, 2024c).

Feedback regarding the routes is taken into consideration and forwarded to the Health, Safety & Environment (HS&E) Officer for the necessary updates to the route assessment. This information is also shared with the Orica representative in the relevant region (Orica, 2024a).

In situations where special safety measures or concerns are present, or where escorts are required, compliance with SUP-GLO-PRO-024 is mandatory. Additionally, Carrier Safety Programs should align with the requirements of SUP-GLO-PRO-005 (Orica, 2024a).

Transport Practice 1.5: Follow international standards for transportation of cyanide by sea

Orica's manufacturing facility and transfer stations are ICMC certified, therefore, sodium cyanide is packaged and transported in accordance with international regulatory standards and in line with all requirements of the International Maritime Dangerous Goods Code (IMDG) and the current versions of the United Nations Dangerous Goods Transport Guidelines, the Australian Code for the Transport of Dangerous Goods by Road and Rail and the International Maritime Dangerous Goods Code (Orica, 2024a).

Carriers are required to provide manifest documentation, to satisfy local customs regulations and the requirements of the International Maritime Dangerous Goods (IMDG) Code (IMO, 2024b), to the destination port. The manifest should contain a list of the cargo types and in the case of sodium cyanide and any other hazardous cargo the quantity, unique packaging numbers, stowage reference and emergency response procedures. Assessment of transportation agencies is via the Orica Carrier Assessment Questionnaire found in SUP-GLO-PRO-016, which enables a self-assessment and external assessment. A scoring system is included in this assessment process with minimum standards detailed (Orica, 2024a).

Colombia is an International Maritime Organization (IMO) Member State (1974) (IMO, Member States, 2024a) and a Safety of Life at Sea (SOLAS) Signatory Nation (1981) (ICSLAS, 2024), thereby requiring the Port of Cartagena to adhere to the international regulations for the transportation and handling of dangerous goods as set out in the IMDG Code (Parts 4, 5 and 7) and the SOLAS Convention 1974 (Chapter 7) (IMO, 2024b) & (IMO, 2024c). In addition, Puerto de Cartagena has the following certifications (Puerto Cartagena, 2024c):

- Environmental Management System ISO 14001:2015 Certification,
- Quality Management Systems ISO 9001:2015 Certification,
- Occupational Health and Safety Management System ISO 45001,
- International Ship and Port Facility Security Code (ISPS),
- Control and Security Management System BASC (Business Alliance for Secure Commerce) Certification

Transport Practice 1.6: Track cyanide shipments to prevent losses during transport

As a SOLAS signatory nation, it is obligated to transmit Long-Range Identification and Tracking (LRIT) information. This system provides global identification and tracking of ships for security, safety and protection of marine environment (IMO, 2024c). The Harbour Master organises ship movements, tracks pilotage operations, and supervises terminal operations via the port Control Tower and real-time closed-circuit television (CCTV) monitoring. Container terminal software allows for the controlled tracking and placement of containers when removed from the vessel (Puerto Cartagena, 2024b).

Chain of custody documentation is used by shipping companies to prevent the loss of cargo during shipment. This documentation includes the vessel manifest which identifies the location and content of each container on the vessel along with packing certificates, Multimodal Dangerous Goods Forms, and Safety Data Sheets (WSP Australia Pty Ltd, 2023).

Transport Practice 2.1: Store cyanide in a manner that minimises the potential for accidental releases

DIAN is the main government customs agency in Colombia, they have an import procedure for emergencies (Logistics Cluster, 2024).

The Control Centre for the Port of Cartagena is equipped with computer management systems for alarms, dangerous goods, emergencies, communications, accesses, video surveillance, recording, etc. The port area has a closed perimeter with restricted access that is controlled by the security service and port Police. CCTV is installed, with permanent recording on digital media, connected through fiber optics and centralized at a Control Centre (WSP Australia Pty Ltd, 2023).

The port and vessel security are managed through the International Ship and Port Facility Security Code (ISPS Code). The ISPS Code is a comprehensive set of measures to enhance security of ships and port facilities.

The purpose of the ISPS Code is to provide a standardised, consistent framework for evaluating risk, enabling Governments to offset changes in threat with changes in vulnerability for ships and port facilities through determination of appropriate security levels and corresponding security measures. The ISPS Code takes the approach that ensuring the security of ships and port facilities is a risk management activity and that, to determine what security measures are appropriate, an assessment of the risks must be made in each particular case (IMO, SOLAS XI-2 and the ISPS Code, 2024).

Transport Practice 3.1: Prepare detailed emergency response plans for potential cyanide releases

Colombia has been a member State of the IMO Member since 1974 and complies with the requirements of the IMDG Code (IMO, 2024b).

Colombia is certified under the International Convention on Oil Pollution Preparedness, Response and Cooperation, 1990 (OPRC 90) (United Nations, 1995). States which are party to OPRC 90 are required to establish a national system for responding to oil and hazardous/noxious substances pollution incidents, including a designated national authority, a national operational contact point and a national contingency plan. This needs to be supported by a minimum level of response equipment, communications plans, and regular training and exercises (ITOPF, 2024)

The Colombian National Contingency Plan, adopted in 1999, is utilised for responding to spills of oil, products and harmful substances at sea and continental waters was developed by governmental and private bodies involved in the management of oil and noxious substances. The Dirección General Maritima (DIMAR), along with the Harbour Masters and Compaňia Colombiana de Petróleos (ECOPETROL), are responsible for marine spill response (ITOPF, 2024).

The National Contingency Plan (NCP) integrates all the local contingency plans to create a strategy for dealing with spills of all sizes in the main ports of the country. Spills in port would normally be controlled by the Capitanias del Puerto (Harbour Masters) who are under the authority of Dirección Nacional Marítima (DIMAR), but elsewhere the Navy and Coastguard would coordinate the response (ITOPF, 2024).

Conclusion

Based on the evidence reviewed, this due diligence did not find significant issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work; rather it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

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B14 Port of Chalmers (Otago), New Zealand

28 February 2024

PS211281 014. RevA

Author: Megan Wood Approved: Rudi Seebach

Port due diligence executive summary

WSP Pty Ltd (WSP) conducted a due diligence of the Port of Chalmers (Otago), New Zealand during February 2024 on behalf of Orica Australia Pty Ltd (Orica).

The assessment was reviewed by Rudi Seebach who meets the International Cyanide Management Institute's (ICMI) requirements for a Transport Technical Specialist.

The following items, as detailed in the ICMI's Auditor Guidance for Use of the Cyanide Transportation Verification Protocol (ICMI 2021), were addressed within the due diligence:

- Transport Practice 1.1 (Questions 1-4 and 6)
- Transport Practice 1.5 (Question 1)
- Transport Practice 1.6
- Transport Practice 2.1
- Transport Practice 3.1.

The ICMI's *Auditor Guidance for Use of Cyanide Transportation Verification Protocol* (ICMI 2021) was used to conduct the due diligence assessment. It was not possible during this due diligence to physically inspect operations, as such the review was based on information obtained from previous due diligence reviews, ICMI audit reports and publicly available online information. Based on the evidence reviewed, this due diligence did not find issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work. Instead, it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

Overview of the Port of Chalmers, New Zealand

The port of Chalmers is located inside the greater Otago Harbour region and is owned by the Otago Regional Council (Port Otago, 2024a). Situated on the lower east coast of the South Island of New Zealand, port Otago operates two wharf systems, Port of Chalmers and Port of Dunedin within the Otago Harbour.

The Otago Harbour is dredged to accommodate vessels with a maximum draught of 13.5 m from Taiaroa Head to port of Chalmers, where the container terminal is located (Seabay Logistics, 2024). This enables the largest container ships in New Zealand trade to call at the Port of Chalmers.

The port of Chalmers has three berths, suitable for handling containerised, multipurpose, and conventional vessels. Berthing flexibility is guaranteed by a swinging basin dredged to 13.5 m, with a turning diameter of 487 m. Fairway to port Chalmers Basin declared at 13.5 m (at chart Datum) (Seabay Logistics, 2024). The port of Chalmers Container Facility covers 17.7 hectares and stores over 7,000 containers, over 38,000 m^2 of covered warehousing is also available (Port Otago, 2024a).

Port operations include (WSP Australia Pty Ltd, 2023):

- The approach of the vessels to the port will consider channels, special navigation points, currents, tides, and weather.
- Entry into the port is controlled by the port's Pilot who understands the port protocols and any unique issues regarding the approach and docking of a vessel at the port. The Ship's Captain works in conjunction with the Pilot as they understand the vessel and can implement and assist with the Pilot's instructions.
- Port protocols exist for docking of vessels (e.g.,, use of Pilots and tugboats, management of different weather conditions, tides, currents and safety and general port operations), which support the safe docking and turnaround of vessels in and out of the port.
- Once a vessel is secure alongside the wharf, the shipping activities changeover to port activities. The vessel's manifest of what containers are required to be unloaded, including the manifest for containers for loading are handed over. This manifest identifies hazardous cargos and their United Nations (UN) number, classification, and segregation requirements.

Private third-party stevedores manage the onshore (wharf) operations at the dedicated Container Facility. Stevedoring operations include (WSP Australia Pty Ltd, 2023):

- Handling of containers whether full or empty on and off the vessels; container storage areas for general cargo, port security, control systems for companies and their vehicles, and collecting and/or delivering containers.
- Software programs that control container placement and movement; these software packages identify each individual container placement area in designated stacks. The input information for the placement of containers originates from the vessel's manifest.

ICMC transport verification protocol assessment

Transport Practice 1.1: Select cyanide transport routes to minimise the potential for accidents and releases

Orica uses reputable shipping lines for the transportation of sodium cyanide manufactured by Orica or manufactured by third parties on behalf of Orica (Orica, 2024a).

Orica's Sodium Cyanide Transport Management protocol (Orica, 2024a) states that all routes used for sodium cyanide transport must undergo a risk assessment to determine their suitability. If multiple routes are available, each one requires an individual risk assessment. These assessments are conducted in accordance with the Route Risk Assessment (Orica, 2024c) and AS 4360:2004 Risk Management standards. Any risks identified as "extreme" must be prioritised and addressed through the development of an action plan to mitigate these risks as much as possible. The process for documenting the risks associated with selected routes is outlined in the Route Risk Assessment (Orica, 2024c).

Feedback regarding the routes is taken into consideration and forwarded to the Health, Safety & Environment (HS&E) Officer for the necessary updates to the route assessment. This information is also shared with the Orica representative in the relevant region (Orica, 2024a).

In situations where special safety measures or concerns are present, or where escorts are required, compliance with SUP-GLO-PRO-024 is mandatory. Additionally, Carrier Safety Programs should align with the requirements of SUP-GLO-PRO-005 (Orica, 2024a).

Proximity to major export production in the lower South Island, and the strategic location of the Otago Harbour for vessel rotation to and from deep-sea destinations makes the Port of Chalmers (Otago Harbour) a key link in international supply chains. Intermodal freight transport and the emergence of nearby Dunedin as the regional centre for major export industries enables the port to act as the southern gateway for the key primary industries that drive New Zealand's international (Meat Industry Association, 2024).

Transport Practice 1.5: Follow international standards for transportation of cyanide by sea

Orica's manufacturing facility and transfer stations are ICMC certified, therefore, sodium cyanide is packaged and transported in accordance with international regulatory standards and in line with all requirements of the International Maritime Dangerous Goods Code (IMDG) and the current versions of the United Nations Dangerous Goods Transport Guidelines, the Australian Code for the Transport of Dangerous Goods by Road and Rail and the International Maritime Dangerous Goods Code (Orica, 2024a).

Carriers are required to provide manifest documentation, to satisfy local customs regulations and the requirements of the International Maritime Dangerous Goods (IMDG) Code (IMO, 2024b), to the destination port. The manifest should contain a list of the cargo types and in the case of sodium cyanide and any other hazardous cargo the quantity, unique packaging numbers, stowage reference and emergency response procedures. Assessment of transportation agencies is via the Orica Carrier Assessment Questionnaire found in SUP-GLO-PRO-016, which enables a self-assessment and external assessment. A scoring system is included in this assessment process with minimum standards detailed (Orica, 2024a).

New Zealand is an International Maritime Organization (IMO) Member State (1960) (IMO, Member States, 2024a) and a Safety of Life at Sea (SOLAS) Signatory Nation (1990) (ICSLAS, 2024), thereby requiring the Port of Chalmers to adhere to the international regulations for the transportation and handling of dangerous goods as set out in the IMDG Code (Parts 4, 5 and 7) (IMO 2018) and the SOLAS Convention 1974 (Chapter 7) (IMO, 2024b) & (IMO, 2024c).

Transport Practice 1.6: Track cyanide shipments to prevent losses during transport

The port of Chalmers has policies and measures in place that comply with the International Ship and port Facility Security (ISPS) Code and are compliant with legislation local to New Zealand under the Maritime Security Act 2004 (Port Otago, 2024b).

Harbour Control is manned 24 hours a day and is based at the gatehouse at the Port of Chalmers. Harbour Control monitor VHF channels and can track vessels on the approaches to and within Otago Harbour utilising Radar and Automatic Identification System (AIS) (Port Otago, 2024c).

Chain of custody documentation is used by shipping companies to prevent the loss of cargo during shipment. This documentation includes the vessel manifest which identifies the location and content of each container on the vessel along with packing certificates, Multimodal Dangerous Goods Forms, and Safety Data Sheets.

Transport Practice 2.1: Store cyanide in a manner that minimises the potential for accidental releases

The Port of Chalmers has a statutory obligation to comply with, amongst others, the security requirements of the port's New Zealand Customs (NZC) Procedure Statement, the *Customs and Excise Act 1996* (New Zealand Customs Service, 2018) and the *Maritime Security Act 2004* (Ministry of Transport , 2021). The primary provisions being laid out in the ISPS Code, particularly *Part 2 Ship and port Facility Security, Subsection 40 port Facility Security Plans and Part 3 Preventative Security Measures, Subsection 46 Restrictions with Respect to port Security Areas* (IMO, 2024b).

The *Hazardous Substances and New Organisms Act 1996* (HSNO Act) (Government of New Zealand, 1996) and its associated *Codes of Practice HSNOCOP-16, HSNOCOP-28 and HSNOCOP-2* ensure that cyanide is stored securely and with adequate ventilation.

All entry to the port is controlled and subject to the possession of acceptable photographic identification. The port and wharf area are closed to general public access and entering the port facilities is deemed as consent for identification checks and searching. Failure to consent to the security measures in place will result in admittance being denied (Port Otago, 2024b).

Port Otago Limited and the New Zealand Customs Service together to maintain safe and secure trading conditions. Systems and equipment are in place to provide border security and includes the use of mobile non-invasive inspection technologies. Transporters are subject to compliance requirements (WSP Australia Pty Ltd, 2023).

Transport Practice 3.1: Prepare detailed emergency response plans for potential cyanide releases

New Zealand has been a member State of the IMO Member since 1960 (IMO, Member States, 2024a), it complies with the requirements of the IMDG Code (IMO, 2024b) .

The Miniter of New Zealand is the competent authority and has responsibility for all forms of marine emergencies, including administering the National Contingency Plan (NCP) for dealing with pollution by oil and other noxious substances in marine and freshwater environments.

The port of Chalmers is certified under the International Convention on Oil Pollution Preparedness, Response and Cooperation, 1990 (OPRC 90) (IMO, 2024d). States which are party to OPRC 90 are required to establish a national system for responding to oil and hazardous/noxious substances pollution incidents, including a designated national authority, a national operational contact point and a national contingency plan. This needs to be supported by a minimum level of response equipment, communications plans, and regular training and exercises (ITOPF, 2024).

Code of Practice HSNOCOP-36 Preparing for a Chemical Emergency also provides a comprehensive guide to emergency management suitable for use by businesses and facilities engaged in the storage, transport, use and handling of chemicals and hazardous substances (Worksafe, 2024).

Conclusion

Based on the evidence reviewed, this due diligence did not find significant issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work; rather it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

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B15 Port of Conakry, Guinea

28 February 2024

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Author: Megan Wood   Approved: Rudi Seebach

Port due diligence executive summary

WSP Pty Ltd (WSP) conducted a due diligence of the Port of Conakry, Guinea during February 2024 on behalf of Orica Australia Pty Ltd (Orica).

The assessment was reviewed by Rudi Seebach who meets the International Cyanide Management Institute's (ICMI) requirements for a Transport Technical Specialist.

The following items, as detailed in the ICMI's Auditor Guidance for Use of the Cyanide Transportation Verification Protocol (ICMI 2021), were addressed within the due diligence:

- Transport Practice 1.1 (Questions 1-4 and 6)
- Transport Practice 1.5 (Question 1)
- Transport Practice 1.6
- Transport Practice 2.1
- Transport Practice 3.1.

The ICMI's *Auditor Guidance for Use of Cyanide Transportation Verification Protocol* (ICMI 2021) was used to conduct the due diligence assessment. It was not possible during this due diligence to physically inspect operations, as such the review was based on information obtained from previous due diligence reviews, ICMI audit reports and publicly available online information. Based on the evidence reviewed, this due diligence did not find issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work. Instead, it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

Overview of the Port of Conakry, Guinea

The port of Conakry is located on the South Coast of Guinea and is the main port of Guinea. The port has a 22 hectare container yard and container storage capacity of 7,150 twenty-foot equivalent units (TEUs). The theoretical annual capacity of the Port of Conakry is 600,000 TEUs (Marine Insight, 2024). The container terminal is jointly operated by Bolloré ports and the port Authority of Conakry. As of 2019, Port Authority of Conakry and the affiliated company of Albayrak Group of Istanbul agreed to privatise Port of Conakry (Alport Conakry, 2024). The port operates a continuous loading and unloading service and is linked to road and rail systems.

The port of Conakry Harbour Master oversees all port operations, including (WSP Australia Pty Ltd, 2023):

- Management of port protocols for vessel docking
- Entry to the port by Pilots
- Vessel approaches
- Shipping activities to port activities changeover.

Stevedoring operations include (WSP Australia Pty Ltd, 2023):

- Handling of full/empty containers on and off vessels, container storage areas for general cargo, port security, etc.
- Management programs for container placement and movement including identification of hazardous cargoes.

Guinea is a member of the International Maritime Organization (IMO) Member (IMO, Member States, 2024a) and the Abuja Memorandum of Understanding (Abuja MOU, 2024), and as such performs its port State obligations, supervises foreign ships that berth at Conakry, and promotes compliance with international conventions among Flag States through port State Control.

ICMC transport verification protocol assessment

Transport Practice 1.1: Select cyanide transport routes to minimise the potential for accidents and releases

Orica uses reputable shipping lines for the transportation of sodium cyanide manufactured by Orica or manufactured by third parties on behalf of Orica (Orica, 2024a).

Orica's Sodium Cyanide Transport Management protocol (Orica, 2024a) states that all routes used for sodium cyanide transport must undergo a risk assessment to determine their suitability. If multiple routes are available, each one requires an individual risk assessment. These assessments are conducted in accordance with the Route Risk Assessment (Orica, 2024c) and AS 4360:2004 Risk Management standards. Any risks identified as "extreme" must be prioritised and addressed through the development of an action plan to mitigate these risks as much as possible. The process for documenting the risks associated with selected routes is outlined in the Route Risk Assessment (Orica, 2024c).

Feedback regarding the routes is taken into consideration and forwarded to the Health, Safety & Environment (HS&E) Officer for the necessary updates to the route assessment. This information is also shared with the Orica representative in the relevant region (Orica, 2024a).

In situations where special safety measures or concerns are present, or where escorts are required, compliance with SUP-GLO-PRO-024 is mandatory. Additionally, Carrier Safety Programs should align with the requirements of SUP-GLO-PRO-005 (Orica, 2024a).

The port of Conakry is located in relatively close proximity to end use destinations in Guinea and the West Africa region. The port is connected to transportation networks consisting of railways and highways.

Transport Practice 1.5: Follow international standards for transportation of cyanide by sea

Orica's manufacturing facility and transfer stations are ICMC certified, therefore, sodium cyanide is packaged and transported in accordance with international regulatory standards and in line with all requirements of the International Maritime Dangerous Goods Code (IMDG) and the current versions of the United Nations Dangerous Goods Transport Guidelines, the Australian Code for the Transport of Dangerous Goods by Road and Rail and the International Maritime Dangerous Goods Code (Orica, 2024a).

Carriers are required to provide manifest documentation, to satisfy local customs regulations and the requirements of the International Maritime Dangerous Goods (IMDG) Code (IMO, 2024b), to the destination port. The manifest should contain a list of the cargo types and in the case of sodium cyanide and any other hazardous cargo the quantity, unique packaging numbers, stowage reference and emergency response procedures. Assessment of transportation agencies is via the Orica Carrier Assessment Questionnaire found in SUP-GLO-PRO-016, which enables a self-assessment and external assessment. A scoring system is included in this assessment process with minimum standards detailed (Orica, 2024a).

Guinea is an IMO Member State (1975) (IMO, Member States, 2024a) and a Safety of Life at Sea (SOLAS) Signatory Nation (1981) (IMO, 2024c), thereby requiring the Port of Conakry to adhere to the international regulations for the transportation and handling of dangerous goods as set out in the IMDG Code (Parts 4, 5 and 7) (IMO 2018) and the SOLAS Convention 1974 (Chapter 7) (IMO, 2024b) & (IMO, 2024c).

Transport Practice 1.6: Track cyanide shipments to prevent losses during transport

Guinea requires a pre-shipment inspection for all imports into the country. This is implemented at the point of loading of the container and the inspection agency seals the container with their own specific seal in addition to the manufacturers own seal provisions (Goodada, 2024).

The Dispatch Centre organises ship movements, tracks pilotage operations, and supervises terminal operations via real-time closed-circuit television (CCTV) monitoring (WSP Australia Pty Ltd, 2023).

Chain of custody documentation is used by shipping companies to prevent the loss of cargo during shipment. This documentation includes the vessel manifest which identifies the location and content of each container on the vessel along with packing certificates, Multimodal Dangerous Goods Forms and Safety Data Sheets (SDSs) (WSP Australia Pty Ltd, 2023).

As a SOLAS signatory nation, it is obligated to transmit Long-Range Identification and Tracking (LRIT) information. This system provides global identification and tracking of ships for security, safety and protection of marine environment (IMO, 2024c).

Transport Practice 2.1: Store cyanide in a manner that minimises the potential for accidental releases

Guinea requires a pre-shipment inspection for all imports into the country. This is implemented at the point of loading of the container and the inspection agency seals the container with their own specific seal in addition to the manufacturers own seal provisions (Goodada, 2024).

The port of Conakry is a secure area with an on-site security presence. Security watch is compulsory for all ships carrying sodium cyanide. The port's security is armed and trained to deal with intruders. The port's security presence is a facet of the port's International Ship and Port Facility Security (ISPS) Code protocols (Alport Conakry, 2024).

All cyanide remains within its sealed containers at all times, preventing contact with water and other incompatible materials. The area of transit storage is well segregated and in an open area to prevent the build-up of hydrogen cyanide gas. During periods of transit, containers of solid sodium cyanide are segregated accordingly and stored in a secured and signed area prohibiting smoking, drinking, and eating. All personnel, outside those operating top lift forklifts, are warned to keep away from the containers (WSP Australia Pty Ltd, 2023).

Only solid sodium cyanide is transited via the Port of Conakry. A previous due diligence assessment indicated that the area in which the containers are located whilst transiting the port is suitable to effectively contain any spillage of solid sodium cyanide that may occur (WSP Australia Pty Ltd, 2023).

Transport Practice 3.1: Prepare detailed emergency response plans for potential cyanide releases

Guinea has been a Member State of the IMO Member since 1975 (IMO, Member States, 2024a) and complies with the requirements of the IMDG Code (IMO, 2024b). Although not specifically addressed in the due diligence the Port of Conakry a safety plan with Conakry Port S.A (Alport Conakry, 2024).

The port of Conakry is certified under the International Convention on Oil Pollution Preparedness, Response and Cooperation, 1990 (OPRC 90) (United Nations, 1995). States which are party to OPRC 90 are required to establish a national system for responding to oil and hazardous/noxious substances pollution incidents, including a designated national authority, a national operational contact point and a national contingency plan. This needs to be supported by a minimum level of response equipment, communications plans, and regular training and exercises (ITOPF, 2024).

Conclusion

Based on the evidence reviewed, this due diligence did not find significant issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work; rather it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

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B16 Port of Corinto, Nicaragua

28 February 2024

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Author: Megan Wood Approved: Rudi Seebach

Port due diligence executive summary

WSP Pty Ltd (WSP) conducted a due diligence of the Port of Nicaragua during February 2024, on behalf of Orica Australia Pty Ltd (Orica).

The assessment was reviewed by Rudi Seebach, who meets the International Cyanide Management Institute's (ICMI) requirements for a Transport Technical Specialist.

The following items, as detailed in the ICMI's Auditor Guidance for Use of Cyanide Transportation Verification Protocol, June 2021 (ICMI 2022), were addressed within the due diligence:

- Transport Practice 1.1 (Questions 1-4 and 6)
- Transport Practice 1.5 (Question 1)
- Transport Practice 1.6
- Transport Practice 2.1
- Transport Practice 3.1.

The ICMI's *Auditor Guidance for Use of Cyanide Transportation Verification Protocol, June 2021* (ICMI 2022) was used to conduct the due diligence assessment. It was not possible during this due diligence to physically inspect operations, as such the review was based on information obtained from previous due diligence reviews, ICMI audit reports and publicly available online information. Based on the evidence reviewed, this due diligence did not find issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work. Instead, it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

Overview of the Port of Corinto, Nicaragua

The Port of Corinto is in the province of Chinandega, on the western coast of Nicaragua, in the department of Chinandega, and is largest port in Nicaragua (Seabay Logistics, 2024). The port is managed by the Empresa Portuaria Nacional (EPN) (Marine Insight, 2024). EPN has responsibility for six Nicaraguan ocean ports and seven lake ports. It is the country's main commercial port and is connected by highway to mainland Nicaragua year-round. The exterior channel is 146 m deep, 150 m wide, and 3.4 km long while the inner channel is 1335 m deep, 115 m wide, and 314 km long (Logistics Cluster, 2024a). The Port has a marginal concrete pier of 610 m long with terminal and liquid outer harbor and warehouse for storage of goods (Logistics Cluster, 2024a)

ICMC transport verification protocol assessment

Transport Practice 1.1: Select cyanide transport routes to minimise the potential for accidents and releases

Orica uses reputable shipping lines for the transportation of sodium cyanide manufactured by Orica or manufactured by third parties on behalf of Orica (Orica, 2024a).

Orica's Sodium Cyanide Transport Management protocol (Orica, 2024a) states that all routes used for sodium cyanide transport must undergo a risk assessment to determine their suitability. If multiple routes are available, each one requires an individual risk assessment. These assessments are conducted in accordance with the Route Risk Assessment (Orica, 2024c) and AS 4360:2004 Risk Management standards. Any risks identified as "extreme" must be prioritised and addressed through the development of an action plan to mitigate these risks as much as possible. The process for documenting the risks associated with selected routes is outlined in the Route Risk Assessment (Orica, 2024c).

Feedback regarding the routes is taken into consideration and forwarded to the Health, Safety & Environment (HS&E) Officer for the necessary updates to the route assessment. This information is also shared with the Orica representative in the relevant region (Orica, 2024a).

In situations where special safety measures or concerns are present, or where escorts are required, compliance with SUP-GLO-PRO-024 is mandatory. Additionally, Carrier Safety Programs should align with the requirements of SUP-GLO-PRO-005 (Orica, 2024a).

Transport Practice 1.5: Follow international standards for transportation of cyanide by sea

Orica's manufacturing facility and transfer stations are ICMC certified, therefore, sodium cyanide is packaged and transported in accordance with international regulatory standards and in line with all requirements of the International Maritime Dangerous Goods Code (IMDG) and the current versions of the United Nations Dangerous Goods Transport Guidelines, the Australian Code for the Transport of Dangerous Goods by Road and Rail and the International Maritime Dangerous Goods Code (Orica, 2024a).

Carriers are required to provide manifest documentation, to satisfy local customs regulations and the requirements of the International Maritime Dangerous Goods (IMDG) Code (IMO, 2024b), to the destination port. The manifest should contain a list of the cargo types and in the case of sodium cyanide and any other hazardous cargo the quantity, unique packaging numbers, stowage reference and emergency response procedures. Assessment of transportation agencies is via the Orica Carrier Assessment Questionnaire found in SUP-GLO-PRO-016, which enables a self-assessment and external assessment. A scoring system is included in this assessment process with minimum standards detailed (Orica, 2024a).

Nicaragua is an International Maritime Organization (IMO) Member State (since 1982) (IMO, Member States, 2024a), thereby requiring the port to adhere to the international regulations for the transportation and handling of dangerous goods as set out in the IMDG Code (Parts 4, 5 and 7) (IMO, 2024b) & (IMO, 2024c).

Transport Practice 1.6: Track cyanide shipments to prevent losses during transport

To ensure safe carriage of dangerous goods and prevent pollution to the environment, the International Maritime Dangerous Goods (IMDG) which is mandatory international code, sets out the detail requirements appliable to each individual substance and being member of the IMO, the port is expected to fulfill the set requirements. As a member of the IMO**,** vessels are required to declare dangerous cargo before arriving/leaving the Port. Chain of custody documentation is used by shipping companies to prevent the loss of cargo during shipment (IMO, 2024b). This documentation includes the vessel manifest which identifies the location and content of each container on the vessel along with packing certificates, Multimodal Dangerous Goods Forms and Safety Data Sheets (SDS).

Transport Practice 2.1: Store cyanide in a manner that minimises the potential for accidental releases

The port is required to meet international standards for security measures as per the IMO and is monitored by the Directorate General of Water Transport (DGTA), EPN (Logistics Cluster, 2024a). The Corinto Port security and protection is regulated by national security and defence policies as highlighted under chapter VI, security and maritime port protection, Law No. 838 General Law of Ports of Nicaragua (Republica De Nicaragua, 2013). All sodium cyanide remains sealed within containers preventing contact with water and other incompatible materials.

Recent ICMI supply chain Re-Certification Audit reports (MSS Code Certification Service, 2021), as conducted for Draslovka Global Ocean Supply Chain, have found that the Corinto Port is considered a well-operated and secure facility when it comes to minimising the potential for accidental releases of sodium cyanide, and the port is equipped with appropriate facilities and infrastructure.

Transport Practice 3.1: Prepare detailed emergency response plans for potential cyanide releases

Nicaragua has been a Member State of the IMO since 1982 (IMO, Member States, 2024a) and complies with the requirements of the IMDG code (IMO, 2024b). The International Safety Management (ISM) Code administered under the requirements of the IMO, requires all ships, and the companies responsible for their operation to maintain a Safety Management System which includes procedures for emergency planning and response (IMO, 2024e).

Conclusion

Based on the evidence reviewed, this due diligence did not find significant issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work; rather it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

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B17 Port of Da Nang, Vietnam

6 March 2024

PS211281 017. RevA

Author: Megan Wood Approved: Rudi Seebach

Port due diligence executive summary

WSP Pty Ltd (WSP) conducted a due diligence of the Port of Da Nang, Vietnam during 6 March 2024 on behalf of Orica Australia Pty Ltd (Orica).

The assessment was reviewed by Rudi Seebach who meets the International Cyanide Management Institute's (ICMI) requirements for a Transport Technical Specialist.

The following items, as detailed in the ICMI's Auditor Guidance for Use of Cyanide Transportation Verification Protocol (ICMI 2021), were addressed within the due diligence:

- Transport Practice 1.1 (Questions 1-4 and 6)
- Transport Practice 1.5 (Question 1)
- Transport Practice 1.6
- Transport Practice 2.1
- Transport Practice 3.1.

The ICMI's *Auditor Guidance for Use of Cyanide Transportation Verification Protocol* (ICMI 2021) was used to conduct the due diligence assessment. It was not possible during this due diligence to physically inspect operations, as such the review was based on information obtained from previous due diligence reviews, ICMI audit reports and publicly available online information. Based on the evidence reviewed, this due diligence did not find issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance of for future work; rather it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

Overview of the Port of Da Nang, Vietnam

Situated at the southern end of a bay off the South China Sea in east-central Vietnam, Da Nang Port is 622 kilometres north-northeast of Saigon Port in Ho Chi Minh City. Enclosed to the east by the Tien Sa Peninsula and Cape Da Nang (logisticsCluster, 2024k). The Da Nang port, one of Central Vietnam's largest ports, serves as a vital link between South and North Vietnam, spanning an area of approximately 300,000 m2.

The port is divided into three berth areas: Tien Sa-Son Tra, Tho Quang, and Lien Chieu. It can accommodate vessels up to 45,000 deadweight tonnage (DWT), with ongoing infrastructure enhancements aimed at increasing this capacity to 50,000 DWT. As a medium-sized, deep-water port, it plays a strategic role in South China Sea maritime trade (MarineInsight, 2024).

The western bank of the Da Nang port is reserved for the Vietnamese Navy, while the eastern bank is used by commercial vessels. The entire Da Nang port is a natural harbor, with a channel depth reaching 13 metres at the mouth of the Han Giang River. It also features an oil depot connected to the Bay via an oil pipeline (MarineInsight, 2024).

The channel depth at the Da Nang port varies between 10 and 17 metres, making it suitable for all types of container ships, bulk carriers, and liquid carriers. The port includes a 29,000 m2 warehouse and a 184,000 m2 open storage yard. It provides maritime connections from Central Vietnam to Thailand, Laos, and Singapore.

Its proximity to the Da Nang International Airport and the national railroad station provides easy access to the country's transportation networks and hinterland (logisticsCluster, 2024k).

Vietnam National Shipping Lines is the managing company/Port Authority.

ICMC transport verification protocol assessment

Transport Practice 1.1: Select cyanide transport routes to minimise the potential for accidents and releases

Orica uses reputable shipping lines for the transportation of sodium cyanide manufactured by Orica or manufactured by third parties on behalf of Orica (Orica, 2024a).

Orica's Sodium Cyanide Transport Management protocol (Orica, 2024a) states that all routes used for sodium cyanide transport must undergo a risk assessment to determine their suitability. If multiple routes are available, each one requires an individual risk assessment. These assessments are conducted in accordance with the Route Risk Assessment (Orica, 2024c) and AS 4360:2004 Risk Management standards. Any risks identified as "extreme" must be prioritised and addressed through the development of an action plan to mitigate these risks as much as possible. The process for documenting the risks associated with selected routes is outlined in the Route Risk Assessment (Orica, 2024c).

Feedback regarding the routes is taken into consideration and forwarded to the Health, Safety & Environment (HS&E) Officer for the necessary updates to the route assessment. This information is also shared with the Orica representative in the relevant region (Orica, 2024a).

In situations where special safety measures or concerns are present, or where escorts are required, compliance with SUP-GLO-PRO-024 is mandatory. Additionally, Carrier Safety Programs should align with the requirements of SUP-GLO-PRO-005 (Orica, 2024a).

Transport Practice 1.5: Follow international standards for transportation of cyanide by sea

Orica's manufacturing facility and transfer stations are ICMC certified, therefore, sodium cyanide is packaged and transported in accordance with international regulatory standards and in line with all requirements of the International Maritime Dangerous Goods Code (IMDG) and the current versions of the United Nations Dangerous Goods Transport Guidelines, the Australian Code for the Transport of Dangerous Goods by Road and Rail and the International Maritime Dangerous Goods Code (Orica, 2024a).

Carriers are required to provide manifest documentation, to satisfy local customs regulations and the requirements of the International Maritime Dangerous Goods (IMDG) Code (IMO, 2024b), to the destination port. The manifest should contain a list of the cargo types and in the case of sodium cyanide and any other hazardous cargo the quantity, unique packaging numbers, stowage reference and emergency response procedures. Assessment of transportation agencies is via the Orica Carrier Assessment Questionnaire found in SUP-GLO-PRO-016, which enables a self-assessment and external assessment. A scoring system is included in this assessment process with minimum standards detailed (Orica, 2024a).

Vietnam is an International Maritime Organization (IMO) Member State (1984) (IMO, Member States, 2024a) and a Safety of Life at Sea (SOLAS) Signatory Nation (1974) (IMO, 2024c) thereby requiring the port to adhere to the international regulations for the transportation and handling of dangerous goods as set out in the International Maritime Dangerous Goods Code (Parts 4, 5 and 7) (IMO, 2024b) & (IMO, 2024c).

Transport Practice 1.6: Track cyanide shipments to prevent losses during transport

For safe carriage of dangerous goods and prevent pollution to the environment, the International Maritime Dangerous Goods (IMDG) which is mandatory international code, sets out the detail requirements appliable to each individual substance and being member of the IMO, the port is expected to fulfill the set requirements. As a member of the IMO**,** vessels are required to declare dangerous cargo before arriving/leaving the Port. Chain of custody documentation is used by shipping companies to prevent the loss of cargo during shipment (IMO, 2024b). This documentation includes the vessel manifest which identifies the location and content of each container on the vessel along with packing certificates, Multimodal Dangerous Goods Forms and Safety Data Sheets (SDS).

As a SOLAS signatory nation, it is obligated to transmit Long-Range Identification and Tracking (LRIT) information. This system provides global identification and tracking of ships for security, safety and protection of marine environment (IMO, 2024c).

Transport Practice 2.1: Store cyanide in a manner that minimises the potential for accidental releases

On November 30, 2020, the Vietnamese Ministry of Industry and Trade issued Circular No. 37/2020/TT-BCT. This circular provides a list of hazardous materials that require packaging during transportation, as well as guidelines for the transportation of these materials by road, rail, and inland waterway.

As per the stipulations of Circular No. 37/2020/TT-BCT (Aoki Kenji (EnviX, Ltd.), 2020):

- Dangerous goods, except for those in group 2, must be packaged according to the three groups (PGI, PG II, PG III) outlined in Appendix II of the circular, provided they are in solid or liquid form.
- Organisations that produce or transport dangerous goods must package these goods in accordance with the provisions of Circular No. 37/2020/TT-BCT and any relevant national technical regulations that have been issued.
- Vehicles carrying dangerous goods must undergo inspection and testing prior to packaging.
- If the volume of dangerous goods being transported exceeds a certain level, an escort is required.

Transport Practice 3.1: Prepare detailed emergency response plans for potential cyanide releases

Vietnam has been a Member State of the IMO since 1984 (IMO, 2024a) and complies with the requirements of the IMDG code (IMO, 2024b). The International Safety Management (ISM) Code administered under the requirements of the IMO requires all ships and the companies responsible for their operation to maintain a Safety Management System which includes procedures for emergency planning and response (IMO, 2024e). The National Committee for Search and Rescue (VINASARCOM) is the lead agency for oil spill response and is responsible for the implementation of the national contingency plan (ITOPF, 2024).

Vietnam has a national plan on coping with oil spill incidents, which was ratified by the government in 2001 and updated in 2020 (ITOPF, 2024). Vietnam is part of the Regional Programme for the Prevention and Management of Marine Pollution in the East Asian Seas and has signed a joint statement on oil spill response with Cambodia and Thailand in the Gulf of Thailand (ITOPF, 2024).

Conclusion

Based on the evidence reviewed, this due diligence did not find significant issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work; rather it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

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B18 Port of Dakar, Senegal

28 February 2024

PS211281 018. RevA

Author: Megan Wood   Approved: Rudi Seebach

Port due diligence executive summary

WSP Pty Ltd (WSP) conducted a due diligence of the Port of Dakar, Senegal during February 2024 on behalf of Orica Australia Pty Ltd (Orica).

The assessment was reviewed by Rudi Seebach who meets the International Cyanide Management Institute's (ICMI) requirements for a Transport Technical Specialist.

The following items, as detailed in the ICMI's Auditor Guidance for Use of the Cyanide Transportation Verification Protocol (ICMI 2021), were addressed within the due diligence:

- Transport Practice 1.1 (Questions 1-4 and 6)
- Transport Practice 1.5 (Question 1)
- Transport Practice 1.6
- Transport Practice 2.1
- Transport Practice 3.1.

The ICMI's *Auditor Guidance for Use of Cyanide Transportation Verification Protocol* (ICMI 2021) was used to conduct the due diligence assessment. It was not possible during this due diligence to physically inspect operations, as such the review was based on information obtained from previous due diligence reviews, ICMI audit reports and publicly available online information. Based on the evidence reviewed, this due diligence did not find issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work. Instead, it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

Overview of the Port of Dakar, Senegal

The port of Dakar is in the Republic of Senegal. Dakar is a deep seaport and is located at the intersection of the main sea routes serving the West African coast (Logistics Cluster, 2024b). The port is strategically placed, located at the most advanced point of the West African coast, and is at the intersection of carrier lines linking Europe to South America, and North America to South Africa (Logistics Cluster, 2024b). The international port represents 90% of Mali cargo transit.

The port is divided into two separate trading zones (North and South) separated by a fishing port (Seabay Logistics, 2024). The container terminal in the North Zone of the Port of Dakar covers an area of 24 ha. It has a linear quay of 700 m in length with three berths ranging from 12 to 13 m deep (Logistics Cluster, 2024b). Modern equipment is used for handling, including four quay cranes (including two post-panamax), four Gottwald cranes, 15 reach stackers and 400 refrigerator outlets (Logistics Cluster, 2024b).The port also has separate terminals for bulk goods and hydrocarbons.

The Senegalese government has established an independent entity to manage the port, namely the Société Nationale du Port Autonome de Dakar (SN-PAD) or Dakar Port Authority (Logistics Cluster, 2024b).

ICMC transport verification protocol assessment

Transport Practice 1.1: Select cyanide transport routes to minimise the potential for accidents and releases

Orica uses reputable shipping lines for the transportation of sodium cyanide manufactured by Orica or manufactured by third parties on behalf of Orica (Orica, 2024a).

Orica's Sodium Cyanide Transport Management protocol (Orica, 2024a) states that all routes used for sodium cyanide transport must undergo a risk assessment to determine their suitability. If multiple routes are available, each one requires an individual risk assessment. These assessments are conducted in accordance with the Route Risk Assessment (Orica, 2024c) and AS 4360:2004 Risk Management standards. Any risks identified as "extreme" must be prioritised and addressed through the development of an action plan to mitigate these risks as much as possible. The process for documenting the risks associated with selected routes is outlined in the Route Risk Assessment (Orica, 2024c).

Feedback regarding the routes is taken into consideration and forwarded to the Health, Safety & Environment (HS&E) Officer for the necessary updates to the route assessment. This information is also shared with the Orica representative in the relevant region (Orica, 2024a).

In situations where special safety measures or concerns are present, or where escorts are required, compliance with SUP-GLO-PRO-024 is mandatory. Additionally, Carrier Safety Programs should align with the requirements of SUP-GLO-PRO-005 (Orica, 2024a).

The port of Dakar is strategically placed, located at the most advanced point of the West African coast, and at the intersection of carrier lines linking Europe to South America, and North America to South Africa. It is an international port of transit and serves as the gateway for Mali (WSP Australia Pty Ltd, 2023).

Transport Practice 1.5: Follow international standards for transportation of cyanide by sea

Orica's manufacturing facility and transfer stations are ICMC certified, therefore, sodium cyanide is packaged and transported in accordance with international regulatory standards and in line with all requirements of the International Maritime Dangerous Goods Code (IMDG) and the current versions of the United Nations Dangerous Goods Transport Guidelines, the Australian Code for the Transport of Dangerous Goods by Road and Rail and the International Maritime Dangerous Goods Code (Orica, 2024a).

Carriers are required to provide manifest documentation, to satisfy local customs regulations and the requirements of the International Maritime Dangerous Goods (IMDG) Code (IMO, 2024b), to the destination port. The manifest should contain a list of the cargo types and in the case of sodium cyanide and any other hazardous cargo the quantity, unique packaging numbers, stowage reference and emergency response procedures. Assessment of transportation agencies is via the Orica Carrier Assessment Questionnaire found in SUP-GLO-PRO-016, which enables a self-assessment and external assessment. A scoring system is included in this assessment process with minimum standards detailed (Orica, 2024a).

Senegal is an International Maritime Organization (IMO) Member State (1960) (IMO, Member States, 2024a) and a Safety of Life at Sea (SOLAS) Signatory Nation (1997) (IMO, 2024c), thereby requiring the Port of Dakar to adhere to the international regulations for the transportation and handling of dangerous goods as set out in the IMDG Code (Parts 4, 5 and 7) (IMO 2018) and the SOLAS Convention 1974 (Chapter 7) (IMO, 2024b) & (IMO, 2024c).

Transport Practice 1.6: Track cyanide shipments to prevent losses during transport

The port control (Vigie) is equipped with an AIS (Automatical Identification of Ships) system and a functional beaconing system (Logistics Cluster, 2024b).The Dispatch Center organises ship movements, tracks pilotage operations, and supervises terminal operations via real-time CCTV monitoring.

Chain of custody documentation is used by shipping companies to prevent the loss of cargo during shipment. This documentation includes the vessel manifest which identifies the location and content of each container on the vessel along with packing certificates, Multimodal Dangerous Goods Forms and Safety Data Sheets (SDS) (WSP Australia Pty Ltd, 2023).

As a SOLAS signatory nation, it is obligated to transmit Long-Range Identification and Tracking (LRIT) information. This system provides global identification and tracking of ships for security, safety and protection of marine environment (IMO, 2024c).

Transport Practice 2.1: Store cyanide in a manner that minimises the potential for accidental releases

The Senegal port Authority states that the Port of Dakar has taken significant steps to align its facilities and operations with the directives of the International Convention for the Safety of Life at Sea (SOLAS) 1974, convention. Therefore, every ship applying for permission to enter, and every port facility operator working in the Port of Dakar must ensure compliance with the security and safety requirements for ships and port facilities as issued by the IMO (WSP Australia Pty Ltd, 2023).

The Port of Dakar has:

- A centralised navigation aid at the harbor lookout, equipped with an Automated Identification System (AIS) and functional mark-up structures.
- A surveillance system for the harbor and the water plan using radars, remote monitoring systems and nautical patrols.
- 450 officers trained in International Ship and Port Facility Security Code (ISPS) code standards and the reinforcing of perimeter and access point security measures.
- Security measures for access and the port enclosure with the setting up of a multi-purpose operational centre equipped with high-tech surveillance equipment IMO (Port Autonome de Dakar, 2024).

The Port of Dakar contains 112.5 thousand square metres of open surface storage, 48.8 thousand square metres of covered storage space, and 15 thousand square metres of cold stores. In addition, it has 13 hectares of surface for storing containers (Seabay Logistics, 2024).

Transport Practice 3.1: Prepare detailed emergency response plans for potential cyanide releases

Senegal has been a Member State of the IMO Member since 1960 (IMO, Member States, 2024a) and complies with the requirements of the IMDG Code (IMO, 2024b).

The Port of Dakar is certified under the International Convention on Oil Pollution Preparedness, Response and Cooperation, 1990 (OPRC 90) (United Nations, 1995). States which are party to OPRC 90 are required to establish a national system for responding to oil and hazardous/noxious substances pollution incidents, including a designated national authority, a national operational contact point and a national contingency plan. This needs to be supported by a minimum level of response equipment, communications plans, and regular training and exercises (ITOPF, 2024).

Conclusion

Based on the evidence reviewed, this due diligence did not find significant issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work; rather it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

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B19 Port of Dar es Salaam, Tanzania

28 February 2024

PS211281 019. RevA

Author: Megan Wood Approved: Rudi Seebach

Port due diligence executive summary

WSP Pty Ltd (WSP) conducted a due diligence of the Port of Dar es Salaam, Tanzania during February 2024 on behalf of Orica Australia Pty Ltd (Orica).

The assessment was reviewed by Rudi Seebach who meets the International Cyanide Management Institute's (ICMI) requirements for a Transport Technical Specialist.

The following items, as detailed in the ICMI's Auditor Guidance for Use of the Cyanide Transportation Verification Protocol (ICMI 2021), were addressed within the due diligence:

- Transport Practice 1.1 (Questions 1-4 and 6)
- Transport Practice 1.5 (Question 1)
- Transport Practice 1.6
- Transport Practice 2.1
- Transport Practice 3.1.

The ICMI's *Auditor Guidance for Use of Cyanide Transportation Verification Protocol* (ICMI 2021) was used to conduct the due diligence assessment. It was not possible during this due diligence to physically inspect operations, as such the review was based on information obtained from previous due diligence reviews, ICMI audit reports and publicly available online information. Based on the evidence reviewed, this due diligence did not find issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work. Instead, it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

Overview of the Port of Dar es Salaam, Tanzania

The port of Dar es Salaam is located on the east coast of Africa and is the principal port of Tanzania. Dar es Salaam serves other countries such as Malawi, Zambia, Democratic Republic of Congo, Burundi, Rwanda, and Uganda (Seabay Logistics, 2024) The port is strategically placed to serve as a freight linkage to and from East and Central Africa countries.

The port of Dar es Salaam has a rated capacity of 14.1 million dry cargo and 6.0 million bulk liquid cargo. The port has a total quay length of 2 km with eleven deep-water berths (Tanzania Ports Authority, 2024).

The Tanzania Ports Authority (TPA) operates the Port of Dar es Salaam. In January 2023, TPA took over the 2 container terminals being handled by the Tanzania International Container Terminal Services Ltd (TICTS) (Tanzania Ports Authority, 2024b). The container terminals have four berths totalling 725 m in length with a capacity to handle more than 660,000 twenty-foot equivalent units (TEUs) per year which includes many classes of Dangerous Goods cargo (Tanzania Ports Authority, 2024).

Port operations include (WSP Australia Pty Ltd, 2023):

- The approach of the vessel to the port will take into any account any channels, special navigation points and as mentioned above the currents, tides, and weather.
- Entry into port is controlled by the port's Pilot who understands the port protocols and any unique issues regarding the approach and docking of a vessel at the port. The Ship's Captain works in conjunction with the Pilot as he understands his vessel and can implement and assist with the Pilot's instructions.
- Port protocols exist for docking of vessels, e.g., use of Pilots; use of tugboats; different weather conditions, tides, currents; safety; and general port operations. This sees to the safe docking and turnaround of the vessels in and out of the port.
- Once the vessel is secure alongside the wharf the shipping activities changeover to port activities. The vessels manifest of what containers are required to be unloaded from the vessel, including the manifest for containers for loading are handed over. This manifest will identify hazardous cargos and their UN number and classification, segregation requirements.

The TPA manage the on-shore (wharf) operations at the dedicated container terminal. The stevedoring operations include (WSP Australia Pty Ltd, 2023):

- Handling of the containers whether full or empty on and off the vessels; container storage areas for general cargo, port security, control systems for companies and their vehicles collecting and or delivering containers.
- Software programs that control container placement and movement; these software packages identify each individual container placement area in designated stacks. The input information for the placement of containers comes from the vessel's manifest.

ICMC transport verification protocol assessment

Transport Practice 1.1: Select cyanide transport routes to minimise the potential for accidents and releases

Orica uses reputable shipping lines for the transportation of sodium cyanide manufactured by Orica or manufactured by third parties on behalf of Orica (Orica, 2024a).

Orica's Sodium Cyanide Transport Management protocol (Orica, 2024a) states that all routes used for sodium cyanide transport must undergo a risk assessment to determine their suitability. If multiple routes are available, each one requires an individual risk assessment. These assessments are conducted in accordance with the Route Risk Assessment (Orica, 2024c) and AS 4360:2004 Risk Management standards. Any risks identified as "extreme" must be prioritised and addressed through the development of an action plan to mitigate these risks as much as possible. The process for documenting the risks associated with selected routes is outlined in the Route Risk Assessment (Orica, 2024c).

Feedback regarding the routes is taken into consideration and forwarded to the Health, Safety & Environment (HS&E) Officer for the necessary updates to the route assessment. This information is also shared with the Orica representative in the relevant region (Orica, 2024a).

In situations where special safety measures or concerns are present, or where escorts are required, compliance with SUP-GLO-PRO-024 is mandatory. Additionally, Carrier Safety Programs should align with the requirements of SUP-GLO-PRO-005 (Orica, 2024a).

The port of Dar es Salaam serves other countries such as Malawi, Zambia, Democratic Republic of Congo, Burundi, Rwanda, and Uganda (Seabay Logistics, 2024)

Transport Practice 1.5: Follow international standards for transportation of cyanide by sea

Orica's manufacturing facility and transfer stations are ICMC certified, therefore, sodium cyanide is packaged and transported in accordance with international regulatory standards and in line with all requirements of the International Maritime Dangerous Goods Code (IMDG) and the current versions of the United Nations Dangerous Goods Transport Guidelines, the Australian Code for the Transport of Dangerous Goods by Road and Rail and the International Maritime Dangerous Goods Code (Orica, 2024a).

Carriers are required to provide manifest documentation, to satisfy local customs regulations and the requirements of the International Maritime Dangerous Goods (IMDG) Code (IMO, 2024b), to the destination port. The manifest should contain a list of the cargo types and in the case of sodium cyanide and any other hazardous cargo the quantity, unique packaging numbers, stowage reference and emergency response procedures. Assessment of transportation agencies is via the Orica Carrier Assessment Questionnaire found in SUP-GLO-PRO-016, which enables a self-assessment and external assessment. A scoring system is included in this assessment process with minimum standards detailed (Orica, 2024a).

Tanzania is an International Maritime Organization (IMO) Member State (1974) (IMO, Member States, 2024a) and a Safety of Life at Sea (SOLAS) Signatory Nation (2001) (IMO, 2024c), thereby requiring the Port of Dar es Salaam to adhere to the international regulations for the transportation and handling of dangerous goods as set out in the IMDG Code (Parts 4, 5 and 7) (IMO, 2024b) and the SOLAS Convention 1974 (Chapter 7) (IMO, 2024b) & (IMO, 2024c).

Transport Practice 1.6: Track cyanide shipments to prevent losses during transport

The Dispatch Centre organises ship movements, tracks pilotage operations, and supervises terminal operations via real-time CCTV monitoring (Logistics Cluster, 2024c).

As a member of the IMO and to comply with the IMDG Code and the *Tanzania Harbours Authority Act, 1977* vessels are required to declare dangerous cargo before arriving at or leaving the port (Tanzania Government Gazette, 1977).

Chain of custody documentation is used by shipping companies to prevent the loss of cargo during shipment. This documentation includes the vessel manifest which identifies the location and content of each container on the vessel along with packing certificates, Multimodal Dangerous Goods Forms and Safety Data Sheets (SDS) (WSP Australia Pty Ltd, 2023).

Transport Practice 2.1: Store cyanide in a manner that minimises the potential for accidental releases

The port of Dar es Salaam is accredited under the International Ship and port Security (ISPS) Code and is classed as a secure area. Access to and from the container terminal is well controlled and areas used for cyanide storage may be subject to an additional security presence. The port security egress checkpoint checks a driver's documentation to ensure approval has been granted for the removal of the container, that the container number physically matches with the documentation and that the seal is intact on the shipping container (WSP Australia Pty Ltd, 2023).

Cyanide on arrival is placed in a segregated area whilst awaiting relevant clearances. This area is clearly signed providing appropriate warning to all port personnel. Collection of the cargo by the approved carrier is direct from this area. Vehicles collecting cargo from the port environs are subject to port checks to ensure that approvals for collection are in place and that documentation and container details match prior to egress from the port. Additionally, signage is displayed prohibiting smoking and the consumption of foodstuffs and liquids in the areas where hazardous goods are being stored (WSP Australia Pty Ltd, 2023).

Sodium cyanide product remains sealed inside its container at all times. Containers are in a segregated area which is open to the air to prevent the build-up of hydrogen cyanide gas.

Transport Practice 3.1: Prepare detailed emergency response plans for potential cyanide releases

Tanzania has been a Member State of the IMO Member since 1974 (IMO, Member States, 2024a), it complies with the requirements of the IMDG Code (IMO, 2024b).

The port of Dar es Salaam is certified under the International Convention on Oil Pollution Preparedness, Response and Cooperation, 1990 (OPRC 90) (United Nations, 1995). States which are party to OPRC 90 are required to establish a national system for responding to oil and hazardous/noxious substances pollution incidents, including a designated national authority, a national operational contact point and a national contingency plan. This needs to be supported by a minimum level of response equipment, communications plans, and regular training and exercises (ITOPF, 2024).

Conclusion

Based on the evidence reviewed, this due diligence did not find significant issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work; rather it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

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B20 Port of Fremantle, Australia

5 March 2024

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Author: Megan Wood Approved: Rudi Seebach

Port due diligence executive summary

WSP Pty Ltd (WSP) conducted a due diligence of The Port of Fremantle Australia during March 2024 on behalf of Orica Australia Pty Ltd (Orica).

The assessment was reviewed by Rudi Seebach who meets the International Cyanide Management Institute's (ICMI) requirements for a Transport Technical Specialist.

The following items, as detailed in the ICMI's Auditor Guidance for Use of Cyanide Transportation Verification Protocol (ICMI 2021), were addressed within the due diligence:

- Transport Practice 1.1 (Questions 1-4 and 6)
- Transport Practice 1.5 (Question 1)
- Transport Practice 1.6
- Transport Practice 2.1
- Transport Practice 3.1.

The ICMI's *Auditor Guidance for Use of Cyanide Transportation Verification Protocol* (ICMI 2021) was used to conduct the due diligence assessment. It was not possible during this due diligence to physically inspect operations, as such the review was based on information obtained from previous due diligence reviews, ICMI audit reports and publicly available online information. Based on the evidence reviewed, this due diligence did not find issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance of for future work; rather it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

Overview of the Port of Fremantle, Australia

The port of Fremantle is located on the West Coast of Australia at the mouth of the Swan River and the edge of the Indian Ocean. The Fremantle Inner Harbour houses two container terminals, managed by DP World and Patrick. Both terminals are furnished with specialised handling equipment and cater to major container lines (Fremantle Ports, 2024).

DP World Container Terminal:

- Berths: CT1 & CT2
- Wharf Height: 4.0 metres
- Berth Length: 646 metres
- Design Depth Alongside: 14.5 metres

- Total Area: 13.0 hectares
- Number of Container Ground Slots: 2,299
- Number of Reefer Outlets: 498
- Shed Space: 2,350 square metres.

Patrick Container Terminal:

- Berths: CT3 & CT4
- Wharf Height: 4.0 metres
- Berth Length: 646 metres
- Design Depth Alongside: 14.5 metres
- Total Area: 22 hectares
- Number of Container Ground Slots: 3,500
- Number of Reefer Outlets: 400
- Cranage: 4 x ZPMC post-panamax cranes.

East and Southeast Asia, including Japan, are the major trading regions for Fremantle, with the major exports by commodity being grain (wheat, malt, lupins, canola, oats and barley), alumina, petroleum and bauxite. Major imports are petroleum, fertilisers, caustic soda, cement clinker and sulphur (Fremantle Ports, 2024).

ICMC transport verification protocol assessment

Transport Practice 1.1: Select cyanide transport routes to minimise the potential for accidents and releases

Orica uses reputable shipping lines for the transportation of sodium cyanide manufactured by Orica or manufactured by third parties on behalf of Orica (Orica, 2024a).

Orica's Sodium Cyanide Transport Management protocol (Orica, 2024a) states that all routes used for sodium cyanide transport must undergo a risk assessment to determine their suitability. If multiple routes are available, each one requires an individual risk assessment. These assessments are conducted in accordance with the Route Risk Assessment (Orica, 2024c) and AS 4360:2004 Risk Management standards. Any risks identified as "extreme" must be prioritised and addressed through the development of an action plan to mitigate these risks as much as possible. The process for documenting the risks associated with selected routes is outlined in the Route Risk Assessment (Orica, 2024c).

Feedback regarding the routes is taken into consideration and forwarded to the Health, Safety & Environment (HS&E) Officer for the necessary updates to the route assessment. This information is also shared with the Orica representative in the relevant region (Orica, 2024a).

In situations where special safety measures or concerns are present, or where escorts are required, compliance with SUP-GLO-PRO-024 is mandatory. Additionally, Carrier Safety Programs should align with the requirements of SUP-GLO-PRO-005 (Orica, 2024a).

Transport Practice 1.5: Follow international standards for transportation of cyanide by sea

Orica's manufacturing facility and transfer stations are ICMC certified, therefore, sodium cyanide is packaged and transported in accordance with international regulatory standards and in line with all requirements of the International Maritime Dangerous Goods Code (IMDG) and the current versions of the United Nations Dangerous Goods Transport Guidelines, the Australian Code for the Transport of Dangerous Goods by Road and Rail and the International Maritime Dangerous Goods Code (Orica, 2024a).

Carriers are required to provide manifest documentation, to satisfy local customs regulations and the requirements of the International Maritime Dangerous Goods (IMDG) Code (IMO, 2024b), to the destination port. The manifest should contain a list of the cargo types and in the case of sodium cyanide and any other hazardous cargo the quantity, unique packaging numbers, stowage reference and emergency response procedures. Assessment of transportation agencies is via the Orica Carrier Assessment Questionnaire found in SUP-GLO-PRO-016, which enables a self-assessment and external assessment. A scoring system is included in this assessment process with minimum standards detailed (Orica, 2024a).

Australia is an International Maritime Organization (IMO) Member State (1958) (IMO, Member States, 2024a) and a Safety of Life at Sea (SOLAS) Signatory Nation (1974) (ICSLAS, 2024) thereby requiring the Port of Australia to adhere to the international regulations for the transportation and handling of dangerous goods as set out in the International Maritime Dangerous Goods Code (Parts 4, 5 and 7) (IMO, 2024b) & (IMO, 2024c).

Transport Practice 1.6: Track cyanide shipments to prevent losses during transport

Compliance with Australian Standard AS 3846 The handling and transport of dangerous cargoes in port areas is a direction of the Fremantle Ports Harbour Master (Fremantle Ports, 2020). Port and vessel security are managed through the International Ship and Port Facility Security Code (ISPS) Code. The ISPS Code is a comprehensive set of measures to enhance security of ships and port facilities and provides a standardised, consistent framework for evaluating risk, enabling Governments to offset changes in threat with changes in vulnerability for ships and port facilities through determination of appropriate security levels and corresponding security measures. The ISPS Code takes the approach that ensuring the security of ships and port facilities is a risk management activity and that, to determine what security measures are appropriate, an assessment of the risks must be made in each case.

As a state member of IMO and The International Convention for the Prevention of Pollution from Ships (MARPOL) 73/78, it ensures the requirements for inspection and reporting of an incident involving harmful substance.

Chain of custody documentation is used by shipping companies to prevent the loss of cargo during shipment. This documentation includes the vessel manifest which identifies the location and content of each container on the vessel along with packing certificates, Multimodal Dangerous Goods Forms and Safety Data Sheets.

As a SOLAS signatory nation, it is obligated to transmit Long-Range Identification and Tracking (LRIT) information. This system provides global identification and tracking of ships for security, safety and protection of marine environment (IMO, 2024c).

Transport Practice 2.1: Store cyanide in a manner that minimises the potential for accidental releases

The storage of cyanide is managed under the following (Fremantle Ports, 2020):

- AS 3846 The handling and transport of dangerous cargoes in port areas
- Western Australian legislation including *Dangerous Goods Safety Act 2004*, *Port Authorities Act 1999*, *Occupational Safety and Health Act 1984*, and associated regulations

- National legislation including *Navigation Act 2012* and Marine Orders, and *Protection of the Sea (Prevention of Pollution from Ships) Act 1983*
- The International Maritime Dangerous Goods Code (IMDG Code) and other relevant IMO Codes, and the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG Code,) Australian Code for the Transport of Explosives by Road and Rail (AE Code)
- Risk assessments undertaken in respect of dangerous cargoes in the port as well as specific cargo operations such as anhydrous ammonia, bulk liquified petroleum gas (LPG) and ammonium nitrate.

Packing Groups serve a crucial function in indicating the level of danger posed by toxic substances. Substances classified under Packing Group I, like sodium cyanide, are highly toxic. Dangerous cargoes Packing Group I in quantities exceeding 500 kg are only permitted to remain in the berth area for a maximum of 12 hours (Fremantle Ports, 2020). In addition, Fire and emergency resources need to be appropriate for the type, class, packing group and quantity of dangerous cargoes.

Transport Practice 3.1: Prepare detailed emergency response plans for potential cyanide releases

In preparation for emergencies, a National Oil Spill Response Plan and a National Chemical Spill Response Plan have been developed by the Australian Maritime Safety Authority (Dangerous Cargoes Fact Sheet, 2024). These plans outline the process for dealing with spills and accidents and are designed to establish a framework for all States to develop their own response plans. The respective State plans integrate with the national plans and include a process for activating the national plans in the case of major accidents.

Australia is certified under the International Convention on Oil Pollution Preparedness, Response and Cooperation, 1990 (OPRC 90) (United Nations, 1995). States which are party to OPRC 90 are required to establish a national system for responding to oil and hazardous/noxious substances pollution incidents, including a designated national authority, a national operational contact point and a national contingency plan. This needs to be supported by a minimum level of response equipment, communications plans, and regular training and exercises (ITOPF, 2024).

Conclusion

Based on the evidence reviewed, this due diligence did not find significant issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work; rather it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

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B21 Port of Gladstone, Australia

28 February 2024

PS211281 021. RevA

Author: Megan Wood Approved: Rudi Seebach

Port due diligence executive summary

WSP Pty Ltd (WSP) conducted a due diligence of the Port of Gladstone, Australia during February 2024 on behalf of Orica Australia Pty Ltd (Orica).

The assessment was reviewed by Rudi Seebach who meets the International Cyanide Management Institute's (ICMI) requirements for a Transport Technical Specialist.

The following items, as detailed in the ICMI's Auditor Guidance for Use of the Cyanide Transportation Verification Protocol (ICMI 2021), were addressed within the due diligence:

- Transport Practice 1.1 (Questions 1-4 and 6)
- Transport Practice 1.5 (Question 1)
- Transport Practice 1.6
- Transport Practice 2.1
- Transport Practice 3.1.

The ICMI's *Auditor Guidance for Use of Cyanide Transportation Verification Protocol* (ICMI 2021) was used to conduct the due diligence assessment. It was not possible during this due diligence to physically inspect operations, as such the review was based on information obtained from previous due diligence reviews, ICMI audit reports and publicly available online information. Based on the evidence reviewed, this due diligence did not find issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work. Instead, it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

Overview of the Port of Gladstone, Australia

The port of Gladstone is located approximately 525 km north of Brisbane in Queensland, Australia, and is the principal port in central Queensland. It is owned and managed by Gladstone ports Corporation (GPC), which is a statutory corporate body of the Government of Queensland and is charged with overseeing the commercial activities in the port, including the maintenance of the port infrastructure and provisioning of pilots. The port of Gladstone is Queensland's largest multi-commodity port, handling over 30 different products. Major cargoes include coal, bauxite, alumina, aluminium and cement. The port has a total throughput of more than 98 million tonnes per annum (Mtpa) (GPC, 2022).

The port of Gladstone has eight main wharf centres, comprising 20 wharves:

- RG Tanna Coal Terminal four wharves owned and operated by GPC.
- Barney Point Terminal one wharf owned and operated by GPC.

- Auckland Point Terminal four wharves owned by GPC and operated by others.
- Fisherman's Landing four wharves operated by multiple companies.
- South Trees two wharves operated by Queensland Alumina Limited (QAL).
- Boyne Wharf one wharf operated by Boyne Smelters Limited (BSL).
- Curtis Island three wharves operated by Liquefied Natural Gas (LNG) companies; Australia Pacific LNG (APLNG), Santos GLNG and Queensland Curtis LNG (QCLNG).
- Wiggins Island Coal Terminal one wharf operated by Wiggins Island Coal Export Terminal (WICET).

Of the 20 wharves, the multi-user Auckland Point Terminal No. 4 is the only container wharf within the Port of Gladstone. It has a berth pocket of 11.4 m (LAT), a berth pocket length of 220 m, wharf face of 220 m, wharf width of 33.9 m, wharf length (including mooring dolphins) of 269 m, bollard capacity of 100 tonnes (t), and a max vessel Dead Weight Tonnage (DWT) of 70,000 t. Container operations at Auckland port Terminal No. 4 are carried out by a large mobile container crane (GPC, 2022).

The port of Gladstone limits ship size to 320 metres (m) length overall (LOA), beam 55 m and draft dependent on tide but not likely to exceed 18 m. Loaded ships may be draft restricted. The design depth of the Outer Harbour Channel is 16.1 m but may be less than this between scheduled dredging; a vessel can sail (weather conditions permitting) at 17 m draft on any day of the year and up to 18 m draft with the appropriate tide heights.

Port service providers are available 24 hours per day, seven days per week.

ICMC transport verification protocol assessment

Transport Practice 1.1: Select cyanide transport routes to minimise the potential for accidents and releases

Orica uses reputable shipping lines for the transportation of sodium cyanide manufactured by Orica or manufactured by third parties on behalf of Orica (Orica, 2024a).

Orica's Sodium Cyanide Transport Management protocol (Orica, 2024a) states that all routes used for sodium cyanide transport must undergo a risk assessment to determine their suitability. If multiple routes are available, each one requires an individual risk assessment. These assessments are conducted in accordance with the Route Risk Assessment (Orica, 2024c) and AS 4360:2004 Risk Management standards. Any risks identified as "extreme" must be prioritised and addressed through the development of an action plan to mitigate these risks as much as possible. The process for documenting the risks associated with selected routes is outlined in the Route Risk Assessment (Orica, 2024c).

Feedback regarding the routes is taken into consideration and forwarded to the Health, Safety & Environment (HS&E) Officer for the necessary updates to the route assessment. This information is also shared with the Orica representative in the relevant region (Orica, 2024a).

In situations where special safety measures or concerns are present, or where escorts are required, compliance with SUP-GLO-PRO-024 is mandatory. Additionally, Carrier Safety Programs should align with the requirements of SUP-GLO-PRO-005 (Orica, 2024a).

The port of Gladstone's location offers entry to international markets through direct connectivity to Australia's major road and rail networks and international shipping lines.

Transport Practice 1.5: Follow international standards for transportation of cyanide by sea

Orica's manufacturing facility and transfer stations are ICMC certified, therefore, sodium cyanide is packaged and transported in accordance with international regulatory standards and in line with all requirements of the International Maritime Dangerous Goods Code (IMDG) and the current versions of the United Nations Dangerous Goods Transport Guidelines, the Australian Code for the Transport of Dangerous Goods by Road and Rail and the International Maritime Dangerous Goods Code (Orica, 2024a).

Carriers are required to provide manifest documentation, to satisfy local customs regulations and the requirements of the International Maritime Dangerous Goods (IMDG) Code (IMO, 2024b), to the destination port. The manifest should contain a list of the cargo types and in the case of sodium cyanide and any other hazardous cargo the quantity, unique packaging numbers, stowage reference and emergency response procedures. Assessment of transportation agencies is via the Orica Carrier Assessment Questionnaire found in SUP-GLO-PRO-016, which enables a self-assessment and external assessment. A scoring system is included in this assessment process with minimum standards detailed (Orica, 2024a).

Australia is an International Maritime Organization (IMO) Member State (1952) (IMO, Member States, 2024a) and a Safety of Life at Sea (SOLAS) Signatory Nation (1983) (IMO, 2024c), thereby requiring the Port of Gladstone to adhere to the international regulations for the transportation and handling of dangerous goods as set out in the IMDG Code (Parts 4, 5 and 7) (IMO, 2024b) and the SOLAS Convention 1974 (Chapter 7) (IMO, 2024b) & (IMO, 2024c).

Transport Practice 1.6: Track cyanide shipments to prevent losses during transport

Maritime Safety Queensland (MSQ), through the authority of the Harbour Master, has jurisdiction over the safe movement of all shipping within the pilotage area and provides essential maritime services such as Vessel Traffic Services (VTS) Centre (GPC, 2022).

Chain of custody documentation is used by shipping companies to prevent the loss of cargo during shipment. This documentation includes the vessel manifest which identifies the location and content of each container on the vessel along with packing certificates, Multimodal Dangerous Goods Forms and Safety Data Sheets (SDSs) (WSP Australia Pty Ltd, 2023).

Division 13 of the Transport Operations (Marine Safety) Regulation 2004 outlines the duties of owners and masters of vessels in relation to the carriage of dangerous goods (Queensland, 2004). The regulations require that ships carrying dangerous goods must comply with the appropriate directions of the IMDG code (IMO, 2024b) and Australian Standard (AS) 3846-2005 The Handling and Transport of Dangerous Cargoes in port Areas (Standards Australia, 2005) and are to notify GPC of the intent to bring dangerous cargo into or depart from a pilotage area.

Ships must report the information, namely the arrival and/or departure of the ship, the removal of the ship to another berth or anchorage, the transfer of the cargo to another ship the loading of the dangerous cargo, and the details of the dangerous cargo in an approved form.

Transport Practice 2.1: Store cyanide in a manner that minimises the potential for accidental releases

All sodium cyanide transited through the Port of Gladstone remains contained within its sealed containers at all times preventing contact with water and other incompatible materials. A review of recent aerial imagery showed that the container storage area is fenced with a secure entrance and a boom gate (WSP Australia Pty Ltd, 2023).

GPC is responsible for the security and protection of the port's infrastructure and assets, and the provision of risk-based security services.

In general, port and vessel security are managed through the International Ship and port Facility Security Code (ISPS Code). The ISPS Code is a comprehensive set of measures to enhance security of ships and port facilities, regulated by the *Maritime Transport and Offshore Facilities Security Act, 2003* (MTOFSA) (DHA, 2003). This act requires the establishment of maritime security zones in and around the port and wharf facilities as part of GPC's maritime security plans. These regulated zones place restrictions and limitations on who may enter.

In addition to GPC's maritime security plan, security regulated ships, port facilities and port service providers also have maritime security plans which outline the measures and procedures undertaken to protect vessels that trade in Australian seaports and the port infrastructure that services those vessels (WSP Australia Pty Ltd, 2023).

The Landside Restricted Zones (LRZ) for GPC managed facilities within the Port of Gladstone include the wharves and wharf approaches. To enter these areas, a person must have authorisation to do so and produce and display a current GPC identification card and a Maritime Security Identification Card (MSIC). The Maritime Security Identification Card (MSIC) is a nationally recognised identity card which identifies the holder as a person who has met the necessary background requirements to work in a maritime security zone. It shows that the holder has met the minimum security requirements to work unescorted or unmonitored in a maritime security zone and is not considered a threat to maritime security. Entry to all other areas of a facility will require authorisation and a current GPC ID card (GPC, 2024).

The zone will be in force one hour prior to a Security Regulated Ship berthing at a facility. The zone will remain in force until the Security Regulated Ship has intentionally let go its moorings and has cleared the berth by no less than 400 m. The zone will be in force at all maritime security levels (GPC, 2024).

There are Restricted Zones in place around all berths within the Port of Gladstone. These zones are operational at all times of the day and night. These zones include a distance of 60 m from the seaward face of a berth and 20 m from the most westerly, easterly, approach and landside face of a berth, inclusive from the high-water mark to the sea bed. Unauthorised entry into these zones is an offence under both State and Commonwealth legislation Gladstone Ports Corporation (GPC, 2024).

Transport Practice 3.1: Prepare detailed emergency response plans for potential cyanide releases

The port of Gladstone is certified under the IMO's International Convention on Oil Pollution Preparedness, Response and Cooperation 1990 (OPRC 90) (United Nations, 1995). States which are party to OPRC 90 protocol are required to establish a national system for responding to oil and hazardous/noxious substances pollution incidents, including a designated national authority, a national operational contact point and a national contingency plan. This needs to be supported by a minimum level of response equipment, communications plans, and regular training and exercises (ITOPF, 2024).

AMSA, a federal government self-funded maritime safety agency established in 1990, is responsible for providing a national response capability for marine pollution. AMSA administers the *National Plan to Combat Pollution of the Sea by Oil and other Noxious and Hazardous Substances*, a cooperative arrangement between the Federal, State and Territory Governments and the shipping, oil, exploration and chemical industries, emergency services and fire brigades (AMSA, 2024).

Under National Plan arrangements, a wide strategic range of response equipment is held at nine regional stockpiles. Equipment provided by AMSA is generally targeted at larger spills, though this is complemented by equipment held by port authorities, State Governments and individual oil and chemical companies.

Section 12 (Emergency, Pollution, Marine Incidents) of the *port Procedures and Information for Shipping, port of Gladstone* (Queensland Government, 2023) provides guidance to the port community about initial response procedures to dangerous incidents, emergencies, terrorist acts and disasters.

GPC has an Emergency Response Plan that covers situations such as cyclones, marine incidents, bomb threats, fire, explosion or fatalities. Copies of the Response Plan are held at GPC's office in the port, by the Regional Harbour Master and by a number of port users and other key agency contacts Gladstone ports Corporation (GPC, 2022).

Conclusion

Based on the evidence reviewed, this due diligence did not find significant issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work; rather it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

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B22 Port of Guaymas, Mexico

28 February 2024

PS211281 022. RevA

Author: Megan Wood Approved: Rudi Seebach

Port due diligence executive summary

WSP Pty Ltd (WSP) conducted a due diligence of the Port of Guaymas during February 2024, on behalf of Orica Australia Pty Ltd (Orica).

The assessment was reviewed by Rudi Seebach, who meets the International Cyanide Management Institute's (ICMI) requirements for a Transport Technical Specialist.

The following items, as detailed in the ICMI's Auditor Guidance for Use of Cyanide Transportation Verification Protocol, June 2021 (ICMI 2022), were addressed within the due diligence:

- Transport Practice 1.1 (Questions 1-4 and 6)
- Transport Practice 1.5 (Question 1)
- Transport Practice 1.6
- Transport Practice 2.1
- Transport Practice 3.1.

The ICMI's *Auditor Guidance for Use of Cyanide Transportation Verification Protocol, June 2021* (ICMI, 2022) was used to conduct the due diligence assessment. It was not possible during this due diligence to physically inspect operations, as such the review was based on information obtained from previous due diligence reviews, ICMI audit reports and publicly available online information. Based on the evidence reviewed, this due diligence did not find issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work. Instead, it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

Overview of the Port of Guaymas, Mexico

The Port of Guaymas, is situated northwest of Guaymas Bay and on the east coast of the Gulf of California. The Administración Portuaria Integral (API) de Guaymas, S.A. de C. V. has been the port authority for the Port of Guaymas since 1995 (Puerto de Guaymas, 2024). The Port of Guaymas has a diverse infrastructure that allows the safe navigation of large vessels with an access channel, docking and 6 berthing positions. The berths are separated into two bands: the south band with 360 m and the east band with 900 m (Puerto de Guaymas, 2024). The berthing positions are frequently maintained and dredged to keep them in optimal conditions.

In 2021, the Port of Guaymas, located in the Mexican state of Sonora, processed approximately 600,000 metric tons of cargo. This represents a slight increase from the nearly 590,000 metric tons handled in the previous year (Statista, 2024).

ICMC transport verification protocol assessment

Transport Practice 1.1: Select cyanide transport routes to minimise the potential for accidents and releases

Orica uses reputable shipping lines for the transportation of sodium cyanide manufactured by Orica or manufactured by third parties on behalf of Orica (Orica, 2024a).

Orica's Sodium Cyanide Transport Management protocol (Orica, 2024a) states that all routes used for sodium cyanide transport must undergo a risk assessment to determine their suitability. If multiple routes are available, each one requires an individual risk assessment. These assessments are conducted in accordance with the Route Risk Assessment (Orica, 2024c) and AS 4360:2004 Risk Management standards. Any risks identified as "extreme" must be prioritised and addressed through the development of an action plan to mitigate these risks as much as possible. The process for documenting the risks associated with selected routes is outlined in the Route Risk Assessment (Orica, 2024c).

Feedback regarding the routes is taken into consideration and forwarded to the Health, Safety & Environment (HS&E) Officer for the necessary updates to the route assessment. This information is also shared with the Orica representative in the relevant region (Orica, 2024a).

In situations where special safety measures or concerns are present, or where escorts are required, compliance with SUP-GLO-PRO-024 is mandatory. Additionally, Carrier Safety Programs should align with the requirements of SUP-GLO-PRO-005 (Orica, 2024a).

Transport Practice 1.5: Follow international standards for transportation of cyanide by sea

Orica's manufacturing facility and transfer stations are ICMC certified, therefore, sodium cyanide is packaged and transported in accordance with international regulatory standards and in line with all requirements of the International Maritime Dangerous Goods Code (IMDG) and the current versions of the United Nations Dangerous Goods Transport Guidelines, the Australian Code for the Transport of Dangerous Goods by Road and Rail and the International Maritime Dangerous Goods Code (Orica, 2024a).

Carriers are required to provide manifest documentation, to satisfy local customs regulations and the requirements of the International Maritime Dangerous Goods (IMDG) Code (IMO, 2024b), to the destination port. The manifest should contain a list of the cargo types and in the case of sodium cyanide and any other hazardous cargo the quantity, unique packaging numbers, stowage reference and emergency response procedures. Assessment of transportation agencies is via the Orica Carrier Assessment Questionnaire found in SUP-GLO-PRO-016, which enables a self-assessment and external assessment. A scoring system is included in this assessment process with minimum standards detailed (Orica, 2024a).

Mexico is an International Maritime Organization (IMO) Member State (1954) (IMO, Member States, 2024a) and a Safety of Life at Sea (SOLAS) Signatory Nation (1977) (ICSLAS, 2024), thereby requiring the port to adhere to the international regulations for the transportation and handling of dangerous goods as set out in the IMDG Code, 2021 (Parts 4, 5 and 7) (IMO, 2024b) and the SOLAS Convention 1974 (Chapter 7) (IMO, 2024b) & (IMO, 2024c).

Transport Practice 1.6: Track cyanide shipments to prevent losses during transport

As a member of the IMO, vessels are required to declare dangerous cargo before arriving/leaving the Port**.** Chain of custody documentation is used by shipping companies to prevent the loss of cargo during shipment**.** This documentation includes the vessel manifest, which identifies the location and content of each container on the vessel along with packing certificates, Multimodal Dangerous Goods Forms and Safety Data Sheets (SDS) (WSP Australia Pty Ltd, 2023).

As a SOLAS signatory nation, it is obligated to transmit Long-Range Identification and Tracking (LRIT) information. This system provides global identification and tracking of ships for security, safety and protection of marine environment (IMO, 2024c).

Transport Practice 2.1: Store cyanide in a manner that minimises the potential for accidental releases

The port of Guaymas must adhere to the requirements of Official Mexican Standard NOM-010-SCT2/2009 -Compatibility and segregation provisions for the Storage and transportation of hazardous substances, materials and waste and NOM-023-SCT4-1995 Conditions for the management and Storage of dangerous goods in ports, terminals and sea units (U.S DOT, 1994) & (U.S DOT, 1994).

These standards state that ports, terminals and offshore units must establish areas for management, storage and adequate segregation of dangerous goods in bulk or packed form, from other cargo. There is a compatibility and segregation table for dangerous substances, materials and waste. These storage areas must have the appropriate infrastructure, facilities and signage on display in accordance with the inherent risks of the products (WSP Australia Pty Ltd, 2023).

The port or terminal operator must ensure that the areas where goods are handled and stored always be monitored and that personnel involved in such operations have received adequate training. The operator shall keep a permanent record of any dangerous goods encountered in the port area and will ensure that in the areas where the products are handled and stored, personnel have accessible information on emergency procedures (WSP Australia Pty Ltd, 2023).

All sodium cyanide remains sealed within containers preventing contact with water and other incompatible materials. The standards also ensure that in such areas signage is displayed to show smoking is prohibited, sources of ignition are avoided and proper precautions are taken with regards to personal protective equipment for the handling of dangerous goods (WSP Australia Pty Ltd, 2023).

Transport Practice 3.1: Prepare detailed emergency response plans for potential cyanide releases

The Mexican Government has national standards in place for the transportation, handling and storage of hazardous substances which applies to all ports, terminals and offshore facilities where dangerous goods may be stored (WSP Australia Pty Ltd, 2023).

Mexican Standard *NOM-005-SCT2/1994 Emergency Information for the Transportation of hazardous substances, materials and waste* and *NOM-023-SCT4-1995 Conditions for the management and Storage of dangerous goods in ports, terminals and sea units* both contain provisions for ensuring preparedness in the event of an emergency situation (U.S DOT, 2000) & (U.S DOT, 1994). Essentially these standards require that the port administration form and maintain (via training) an emergency response team, ensure emergency response equipment is available and well maintained and have in place appropriate emergency incident notification and reporting mechanisms.

The port of Guaymas is certified under the IMO's International Convention on Oil Pollution Preparedness, Response and Cooperation 1990 (United Nations, 1995). States which are party to OPRC 90 protocol are required to establish a national system for responding to oil and hazardous/noxious substances (HNS) pollution incidents, including a designated national authority, a national operational contact point and a national contingency plan. This needs to be supported by a minimum level of response equipment, communications plans, regular training and exercises.

The Navy's Marine Environment Protection Division is the competent authority and administers the National Contingency Plan (NCP) for dealing with pollution by oil and other noxious substances in marine and freshwater environments (ITOPF, 2024).

The Navy, with the support of private contractors, manages the response to and monitoring of a Hazardous and Noxious Substances (HNS) incident and some equipment is readily available (such as PPE, respirators, pumps, power packs and air monitoring equipment) (WSP Australia Pty Ltd, 2023).

Conclusion

Based on the evidence reviewed, this due diligence did not find significant issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work; rather it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

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B23 Port of Haiphong, Vietnam

6 March 2024

PS211281 023. RevA

Author: Megan Wood Approved: Rudi Seebach

Port due diligence executive summary

WSP Pty Ltd (WSP) conducted a due diligence of the Port of Haiphong, Vietnam during March 2024 on behalf of Orica Australia Pty Ltd (Orica).

The assessment was reviewed by Rudi Seebach who meets the International Cyanide Management Institute's (ICMI) requirements for a Transport Technical Specialist.

The following items, as detailed in the ICMI's Auditor Guidance for Use of Cyanide Transportation Verification Protocol (ICMI 2021), were addressed within the due diligence:

- Transport Practice 1.1 (Questions 1-4 and 6)
- Transport Practice 1.5 (Question 1)
- Transport Practice 1.6
- Transport Practice 2.1
- Transport Practice 3.1.

The ICMI's *Auditor Guidance for Use of Cyanide Transportation Verification Protocol* (ICMI 2021) was used to conduct the due diligence assessment. It was not possible during this due diligence to physically inspect operations, as such the review was based on information obtained from previous due diligence reviews, ICMI audit reports and publicly available online information. Based on the evidence reviewed, this due diligence did not find issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance of for future work; rather it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

Overview of the Port of Haiphong, Vietnam

Hai Phong port is one of northern Vietnam's most crucial and expansive seaports. Situated near the Red River Delta, Hai Phong city serves as a strategic hub for trade and international relations. Its proximity to the Chinese border and transport links to major northern cities such as Ho Chi Minh City, Can Tho, and Da Nang contribute to its status as a busy commercial centre (MarineInsight, 2024).

Hai Phong city is well-connected through various modes of transport, including railways, roadways, airways, inland waterways, and maritime routes.

The Hai Phong seaport has an annual cargo handling and storage capacity of 10 million MT. It can accommodate vessels ranging from 700 deadweight tonnes (DWT) to 40,000 DWT. The port features an average channel depth of 8.5 metres and a total wharf length of 3567 metres (LogisticsCluster, 2024i).

The Chua Ve Container Terminal has undergone significant enhancements, establishing it as the largest and most state-of-the-art container terminal in northern Vietnam, capable of handling 500,000 twenty-foot equivalent units (TEUs) annually.

Saigon Newport Company, a business unit under the Vietnam People's Navy Ministry of National Defence, is the managing company/Port Authority.

ICMC transport verification protocol assessment

Transport Practice 1.1: Select cyanide transport routes to minimise the potential for accidents and releases

Orica uses reputable shipping lines for the transportation of sodium cyanide manufactured by Orica or manufactured by third parties on behalf of Orica (Orica, 2024a).

Orica's Sodium Cyanide Transport Management protocol (Orica, 2024a) states that all routes used for sodium cyanide transport must undergo a risk assessment to determine their suitability. If multiple routes are available, each one requires an individual risk assessment. These assessments are conducted in accordance with the Route Risk Assessment (Orica, 2024c) and AS 4360:2004 Risk Management standards. Any risks identified as "extreme" must be prioritised and addressed through the development of an action plan to mitigate these risks as much as possible. The process for documenting the risks associated with selected routes is outlined in the Route Risk Assessment (Orica, 2024c).

Feedback regarding the routes is taken into consideration and forwarded to the Health, Safety & Environment (HS&E) Officer for the necessary updates to the route assessment. This information is also shared with the Orica representative in the relevant region (Orica, 2024a).

In situations where special safety measures or concerns are present, or where escorts are required, compliance with SUP-GLO-PRO-024 is mandatory. Additionally, Carrier Safety Programs should align with the requirements of SUP-GLO-PRO-005 (Orica, 2024a).

Transport Practice 1.5: Follow international standards for transportation of cyanide by sea

Orica's manufacturing facility and transfer stations are ICMC certified, therefore, sodium cyanide is packaged and transported in accordance with international regulatory standards and in line with all requirements of the International Maritime Dangerous Goods Code (IMDG) and the current versions of the United Nations Dangerous Goods Transport Guidelines, the Australian Code for the Transport of Dangerous Goods by Road and Rail and the International Maritime Dangerous Goods Code (Orica, 2024a).

Carriers are required to provide manifest documentation, to satisfy local customs regulations and the requirements of the International Maritime Dangerous Goods (IMDG) Code (IMO, 2024b), to the destination port. The manifest should contain a list of the cargo types and in the case of sodium cyanide and any other hazardous cargo the quantity, unique packaging numbers, stowage reference and emergency response procedures. Assessment of transportation agencies is via the Orica Carrier Assessment Questionnaire found in SUP-GLO-PRO-016, which enables a self-assessment and external assessment. A scoring system is included in this assessment process with minimum standards detailed (Orica, 2024a).

Vietnam is an International Maritime Organization (IMO) Member State (1984) (IMO, Member States, 2024a) and a Safety of Life at Sea (SOLAS) Signatory Nation (1974) (IMO, 2024c) thereby requiring the port to adhere to the international regulations for the transportation and handling of dangerous goods as set out in the International Maritime Dangerous Goods Code (Parts 4, 5 and 7) (IMO, 2024b) & (IMO, 2024c).

Transport Practice 1.6: Track cyanide shipments to prevent losses during transport

For safe carriage of dangerous goods and prevent pollution to the environment, the International Maritime Dangerous Goods (IMDG) which is mandatory international code, sets out the detail requirements appliable to each individual substance and being member of the IMO, the port is expected to fulfill the set requirements. As a member of the IMO, vessels are required to declare dangerous cargo before arriving/leaving the Port. Chain of custody documentation is used by shipping companies to prevent the loss of cargo during shipment (IMO, 2024b). This documentation includes the vessel manifest which identifies the location and content of each container on the vessel along with packing certificates, Multimodal Dangerous Goods Forms and Safety Data Sheets (SDS).

As a SOLAS signatory nation, it is obligated to transmit Long-Range Identification and Tracking (LRIT) information. This system provides global identification and tracking of ships for security, safety and protection of marine environment (IMO, 2024c).

Transport Practice 2.1: Store cyanide in a manner that minimises the potential for accidental releases

On November 30, 2020, the Vietnamese Ministry of Industry and Trade issued Circular No. 37/2020/TT-BCT. This circular provides a list of hazardous materials that require packaging during transportation, as well as guidelines for the transportation of these materials by road, rail, and inland waterway.

As per the stipulations of Circular No. 37/2020/TT-BCT (Aoki Kenji (EnviX, Ltd.), 2020):

- Dangerous goods, except for those in group 2, must be packaged according to the three groups (PGI, PG II, PG III) outlined in Appendix II of the circular, provided they are in solid or liquid form.
- Organisations that produce or transport dangerous goods must package these goods in accordance with the provisions of Circular No. 37/2020/TT-BCT and any relevant national technical regulations that have been issued.
- Vehicles carrying dangerous goods must undergo inspection and testing prior to packaging.
- If the volume of dangerous goods being transported exceeds a certain level, an escort is required.

Transport Practice 3.1: Prepare detailed emergency response plans for potential cyanide releases

Vietnam has been a Member State of the IMO since 1984 (IMO, 2024a) and complies with the requirements of the IMDG code (IMO, 2024b). The International Safety Management (ISM) Code administered under the requirements of the IMO requires all ships and the companies responsible for their operation to maintain a Safety Management System which includes procedures for emergency planning and response (IMO, 2024e). The National Committee for Search and Rescue (VINASARCOM) is the lead agency for oil spill response and is responsible for the implementation of the national contingency plan (ITOPF, 2024).

Vietnam has a national plan on coping with oil spill incidents, which was ratified by the government in 2001 and updated in 2020 (ITOPF, 2024). Vietnam is part of the Regional Programme for the Prevention and Management of Marine Pollution in the East Asian Seas and has signed a joint statement on oil spill response with Cambodia and Thailand in the Gulf of Thailand (ITOPF, 2024).

Conclusion

Based on the evidence reviewed, this due diligence did not find significant issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work; rather it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

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B24 Port of Ho Chi Minh City, Vietnam

6 March 2024

PS211281 024. RevA

Author: Megan Wood Approved: Rudi Seebach

Port due diligence executive summary

WSP Pty Ltd (WSP) conducted a due diligence of the Port of Ho Chi Minh city, Vietnam during March 2024 on behalf of Orica Australia Pty Ltd (Orica).

The assessment was reviewed by Rudi Seebach who meets the International Cyanide Management Institute's (ICMI) requirements for a Transport Technical Specialist.

The following items, as detailed in the ICMI's Auditor Guidance for Use of Cyanide Transportation Verification Protocol (ICMI 2021), were addressed within the due diligence:

- Transport Practice 1.1 (Questions 1-4 and 6)
- Transport Practice 1.5 (Question 1)
- Transport Practice 1.6
- Transport Practice 2.1
- Transport Practice 3.1.

The ICMI's *Auditor Guidance for Use of Cyanide Transportation Verification Protocol* (ICMI 2021) was used to conduct the due diligence assessment. It was not possible during this due diligence to physically inspect operations, as such the review was based on information obtained from previous due diligence reviews, ICMI audit reports and publicly available online information. Based on the evidence reviewed, this due diligence did not find issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance of for future work; rather it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

Overview of the Port of Ho Chi Minh City, Vietnam

The Port of Ho Chi Minh City, which is part of Saigon Port, is located on west bank the Song Sai Gon (Saigon) River. Saigon Port is the largest port in the south of Vietnam and has a history of over 160 years in contributing to Vietnam's economic development (Saigon Port, 2023). In 2022 the total volume of cargo exceeded 9 million tons. Ho Chi Minh City surrounds the Saigon River, which opens in the South China Sea 20 km northeast of the Mekong Delta.

The port is managed and operated by the Saigon Newport Corporation, a business unit under the Vietnam People's Navy Ministry of National Defence. Over its 18-year operation, Saigon Newport Holding Company has developed terminals and operations in the Port of Ho Chi Minh City (or Saigon Newport). The port handles over 65% of Ho Chi Minh City's container traffic and more than 40% of the country's total container traffic (LogisticsCluster, 2024j).

ICMC transport verification protocol assessment

Transport Practice 1.1: Select cyanide transport routes to minimise the potential for accidents and releases

Orica uses reputable shipping lines for the transportation of sodium cyanide manufactured by Orica or manufactured by third parties on behalf of Orica (Orica, 2024a).

Orica's Sodium Cyanide Transport Management protocol (Orica, 2024a) states that all routes used for sodium cyanide transport must undergo a risk assessment to determine their suitability. If multiple routes are available, each one requires an individual risk assessment. These assessments are conducted in accordance with the Route Risk Assessment (Orica, 2024c) and AS 4360:2004 Risk Management standards. Any risks identified as "extreme" must be prioritised and addressed through the development of an action plan to mitigate these risks as much as possible. The process for documenting the risks associated with selected routes is outlined in the Route Risk Assessment (Orica, 2024c).

Feedback regarding the routes is taken into consideration and forwarded to the Health, Safety & Environment (HS&E) Officer for the necessary updates to the route assessment. This information is also shared with the Orica representative in the relevant region (Orica, 2024a).

In situations where special safety measures or concerns are present, or where escorts are required, compliance with SUP-GLO-PRO-024 is mandatory. Additionally, Carrier Safety Programs should align with the requirements of SUP-GLO-PRO-005 (Orica, 2024a).

Transport Practice 1.5: Follow international standards for transportation of cyanide by sea

Orica's manufacturing facility and transfer stations are ICMC certified, therefore, sodium cyanide is packaged and transported in accordance with international regulatory standards and in line with all requirements of the International Maritime Dangerous Goods Code (IMDG) and the current versions of the United Nations Dangerous Goods Transport Guidelines, the Australian Code for the Transport of Dangerous Goods by Road and Rail and the International Maritime Dangerous Goods Code (Orica, 2024a).

Carriers are required to provide manifest documentation, to satisfy local customs regulations and the requirements of the International Maritime Dangerous Goods (IMDG) Code (IMO, 2024b), to the destination port. The manifest should contain a list of the cargo types and in the case of sodium cyanide and any other hazardous cargo the quantity, unique packaging numbers, stowage reference and emergency response procedures. Assessment of transportation agencies is via the Orica Carrier Assessment Questionnaire found in SUP-GLO-PRO-016, which enables a self-assessment and external assessment. A scoring system is included in this assessment process with minimum standards detailed (Orica, 2024a).

Vietnam is an International Maritime Organization (IMO) Member State (1984) (IMO, Member States, 2024a) and a Safety of Life at Sea (SOLAS) Signatory Nation (1974) (IMO, 2024c) thereby requiring the port to adhere to the international regulations for the transportation and handling of dangerous goods as set out in the International Maritime Dangerous Goods Code (Parts 4, 5 and 7) (IMO, 2024b) & (IMO, 2024c).

Transport Practice 1.6: Track cyanide shipments to prevent losses during transport

For safe carriage of dangerous goods and prevent pollution to the environment, the International Maritime Dangerous Goods (IMDG) which is mandatory international code, sets out the detail requirements appliable to each individual substance and being member of the IMO, the port is expected to fulfill the set requirements. As a member of the IMO**,** vessels are required to declare dangerous cargo before arriving/leaving the Port. Chain of custody documentation is used by shipping companies to prevent the loss of cargo during shipment (IMO, 2024b). This documentation includes the vessel manifest which identifies the location and content of each container on the vessel along with packing certificates, Multimodal Dangerous Goods Forms and Safety Data Sheets (SDS).

As a SOLAS signatory nation, it is obligated to transmit Long-Range Identification and Tracking (LRIT) information. This system provides global identification and tracking of ships for security, safety and protection of marine environment (IMO, 2024c).

Transport Practice 2.1: Store cyanide in a manner that minimises the potential for accidental releases

On November 30, 2020, the Vietnamese Ministry of Industry and Trade issued Circular No. 37/2020/TT-BCT. This circular provides a list of hazardous materials that require packaging during transportation, as well as guidelines for the transportation of these materials by road, rail, and inland waterway.

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- If the volume of dangerous goods being transported exceeds a certain level, an escort is required.

Transport Practice 3.1: Prepare detailed emergency response plans for potential cyanide releases

Vietnam has been a Member State of the IMO since 1984 (IMO, 2024a) and complies with the requirements of the IMDG code (IMO, 2024b). The International Safety Management (ISM) Code administered under the requirements of the IMO requires all ships and the companies responsible for their operation to maintain a Safety Management System which includes procedures for emergency planning and response (IMO, 2024e). The National Committee for Search and Rescue (VINASARCOM) is the lead agency for oil spill response and is responsible for the implementation of the national contingency plan (ITOPF, 2024).

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Conclusion

Based on the evidence reviewed, this due diligence did not find significant issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work; rather it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

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B25 Port of Honiara, Solomon Islands

6 March 2024

PS211281 025. RevA

Author: Megan Wood

Approved: Rudi Seebach

Port due diligence executive summary

WSP Pty Ltd (WSP) conducted a due diligence of the Port of Honiara, Solomon Islands during March 2024 on behalf of Orica Australia Pty Ltd (Orica).

The assessment was reviewed by Rudi Seebach who meets the International Cyanide Management Institute's (ICMI) requirements for a Transport Technical Specialist.

The following items, as detailed in the ICMI's Auditor Guidance for Use of Cyanide Transportation Verification Protocol (ICMI 2021), were addressed within the due diligence:

- Transport Practice 1.1 (Questions 1-4 and 6)
- Transport Practice 1.5 (Question 1)
- Transport Practice 1.6
- Transport Practice 2.1
- Transport Practice 3.1.

The ICMI's *Auditor Guidance for Use of Cyanide Transportation Verification Protocol* (ICMI 2021) was used to conduct the due diligence assessment. It was not possible during this due diligence to physically inspect operations, as such the review was based on information obtained from previous due diligence reviews, ICMI audit reports and publicly available online information. Based on the evidence reviewed, this due diligence did not find issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work. Instead, it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

Overview of the Port of Honiara, Solomon Islands

Honiara Port is the principal port of the Solomon Islands, located on the northern side of Guadalcanal. The primary imports to this port consist of consumer goods and machinery, while its main exports include copra, palm oil, fish, and timber.

Annually, the port welcomes around 190 vessels. The majority of these, about 60%, are cargo vessels, while tankers make up approximately 13%. The largest vessel to have docked at this port had a length of 200 metres, a draught of 12 metres, and a deadweight of 51,747 tons (Seabay Logistics, 2024).

The Honiara port is a domestic dock area which houses seven distinct jetties, each designed specifically for vessels navigating the Solomon's Sea. These include jetties for both passenger and cargo ships, as well as those for Landing Crafts (Solomon Ports, 2024).

The Solomon Islands Ports Authority (SIPA) was created on June 4, 1956, by a law passed in Parliament. The law was last updated in 1996, making SIPA a government-owned authority under the 2007 State Owned Enterprises Act. SIPA, which manages the Honiara and Noro ports, reports to the Infrastructure Development Minister.

ICMC transport verification protocol assessment

Transport Practice 1.1: Select cyanide transport routes to minimise the potential for accidents and releases

Orica uses reputable shipping lines for the transportation of sodium cyanide manufactured by Orica or manufactured by third parties on behalf of Orica (Orica, 2024a).

Orica's Sodium Cyanide Transport Management protocol (Orica, 2024a) states that all routes used for sodium cyanide transport must undergo a risk assessment to determine their suitability. If multiple routes are available, each one requires an individual risk assessment. These assessments are conducted in accordance with the Route Risk Assessment (Orica, 2024c) and AS 4360:2004 Risk Management standards. Any risks identified as "extreme" must be prioritised and addressed through the development of an action plan to mitigate these risks as much as possible. The process for documenting the risks associated with selected routes is outlined in the Route Risk Assessment (Orica, 2024c).

Feedback regarding the routes is taken into consideration and forwarded to the Health, Safety & Environment (HS&E) Officer for the necessary updates to the route assessment. This information is also shared with the Orica representative in the relevant region (Orica, 2024a).

In situations where special safety measures or concerns are present, or where escorts are required, compliance with SUP-GLO-PRO-024 is mandatory. Additionally, Carrier Safety Programs should align with the requirements of SUP-GLO-PRO-005 (Orica, 2024a).

Transport Practice 1.5: Follow international standards for transportation of cyanide by sea

Orica's manufacturing facility and transfer stations are ICMC certified, therefore, sodium cyanide is packaged and transported in accordance with international regulatory standards and in line with all requirements of the International Maritime Dangerous Goods Code (IMDG) and the current versions of the United Nations Dangerous Goods Transport Guidelines, the Australian Code for the Transport of Dangerous Goods by Road and Rail and the International Maritime Dangerous Goods Code (Orica, 2024a).

Carriers are required to provide manifest documentation, to satisfy local customs regulations and the requirements of the International Maritime Dangerous Goods (IMDG) Code (IMO, 2024b), to the destination port. The manifest should contain a list of the cargo types and in the case of sodium cyanide and any other hazardous cargo the quantity, unique packaging numbers, stowage reference and emergency response procedures. Assessment of transportation agencies is via the Orica Carrier Assessment Questionnaire found in SUP-GLO-PRO-016, which enables a self-assessment and external assessment. A scoring system is included in this assessment process with minimum standards detailed (Orica, 2024a).

Solomon Islands is an International Maritime Organization (IMO) Member State (1988) (IMO, Member States, 2024a) and a Safety of Life at Sea (SOLAS) Signatory Nation (1974) (IMO, 2024c) thereby requiring the port to adhere to the international regulations for the transportation and handling of dangerous goods as set out in the International Maritime Dangerous Goods Code (Parts 4, 5 and 7) (IMO, 2024b) & (IMO, 2024c).

Transport Practice 1.6: Track cyanide shipments to prevent losses during transport

As a state member of IMO and The International Convention for the Prevention of Pollution from Ships (MARPOL) 73/78, it ensures the requirements for inspection and reporting of an incident involving harmful substance.

Chain of custody documentation is used by shipping companies to prevent the loss of cargo during shipment. This documentation includes the vessel manifest which identifies the location and content of each container on the vessel along with packing certificates, Multimodal Dangerous Goods Forms and Safety Data Sheets.

As a SOLAS signatory nation, it is obligated to transmit Long-Range Identification and Tracking (LRIT) information. This system provides global identification and tracking of ships for security, safety and protection of marine environment (IMO, 2024c).

Transport Practice 2.1: Store cyanide in a manner that minimises the potential for accidental releases

Solomon Ports operates under the International Ship and Port Facility Security (ISPS) Code, a global standard for enhancing the security of ships and port facilities. In compliance with the ISPS code and the SOE Act, Solomon Ports reports security matters to the Solomon Islands Maritime Safety Administration (SIMSA), a government entity that handles maritime issues in the Solomon Islands.

Security at Solomon Ports is categorised into three levels:

- Level 1: Normal operations with standard security measures.
- Level 2: Specific threat identified, leading to the implementation of targeted security measures.
- Level 3: High security risk, resulting in the cessation of normal operations.

Access to Solomon Ports is restricted by a perimeter fence. The authorised entry points are the exit gatehouse for pedestrians and the front entry gate for vehicles. The ISPS office can be contacted at 42362, and applications for ID and vehicle passes can be made online. Security measures at these access points include ID card checks, gatehouse signage, closed-circuit television (CCTV), and vehicle passes.

A restricted buffer zone of 50 metres is maintained from the wharf or any vessel docked at the wharf. All wharfs, from domestic to international, are designated as fishing-free zones. The public is strictly forbidden from fishing or diving in these areas, with penalties applicable for violations (Solomon Ports, 2024).

Transport Practice 3.1: Prepare detailed emergency response plans for potential cyanide releases

The Solomon Islands Maritime Authority (SIMA) is tasked with managing responses to marine pollution incidents involving oil and other hazardous substances. A draft National Contingency Plan (NCP) has been in place since 2007. In case of a spill, a National Oil Pollution Committee (NOPC) may be formed, including government and oil company representatives, to oversee the response operation.

The response strategy follows a tiered approach. For spills within harbour limits, the harbour master is responsible (Tier 1). For spills within oil industry facilities, the terminal manager or operator is responsible. Oil companies are expected to have local spill contingency plans and appropriate response equipment.

For larger incidents (Tier 2), national resources under SIMA's authority are used. For major spills beyond national capacity (Tier 3), regional assistance is sought. The Solomon Islands is part of the Secretariat of the Pacific Regional Environment Programme (SPREP), which has developed a framework for cooperative regional responses to major marine spills. In such cases, Australia is the primary source of assistance (ITOPF, 2024).

Conclusion

Based on the evidence reviewed, this due diligence did not find significant issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work; rather it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

References

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B26 Port of Izmir, Turkey

29 February 2024

PS211281 026. RevA

Author: Megan Wood Approved: Rudi Seebach

Port due diligence executive summary

WSP Pty Ltd (WSP) conducted a due diligence of the Port of Izmir, Turkey during February 2024 on behalf of Orica Australia Pty Ltd (Orica).

The assessment was reviewed by Rudi Seebach who meets the International Cyanide Management Institute's (ICMI) requirements for a Transport Technical Specialist.

The following items, as detailed in the ICMI's Auditor Guidance for Use of the Cyanide Transportation Verification Protocol (ICMI 2021), were addressed within the due diligence:

- Transport Practice 1.1 (Questions 1-4 and 6)
- Transport Practice 1.5 (Question 1)
- Transport Practice 1.6
- Transport Practice 2.1
- Transport Practice 3.1.

The ICMI's *Auditor Guidance for Use of Cyanide Transportation Verification Protocol* (ICMI 2021) was used to conduct the due diligence assessment. It was not possible during this due diligence to physically inspect operations, as such the review was based on information obtained from previous due diligence reviews, ICMI audit reports and publicly available online information. Based on the evidence reviewed, this due diligence did not find issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work. Instead, it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

Overview of the Port of Izmir, Turkey

The port of Izmir lies on the south-east coast of Izmir Gulf in West Turkey, to the east of Aegean. The T.C. General Directorate of Turkish State Railways Authority (TCDD) is the port authority for the Port of Izmir (Logistics Cluster, 2024d). Izmir port is the third largest in Turkey and is connected to the Turkey's rail and highway networks, providing a key node for import and export for the country (Marine Insight, 2024).

Turkey Container Port Throughput was reported at 12,591,327.000 Twenty-foot equivalent units twenty-foot equivalent units (TEU) in Dec 2021 (CEIC, 2024). The container terminal has 15 berths which have an alongside depth of 13 m. The total length of the berths is 10.5 m (Logistics Cluster, 2024d).

The terminal covers an area of 902,000 m^2, and the holding capacity is 1 million TEU (Marine Insight, 2024). Container operations at the quays are carried out by five gantry cranes of 40 tons capacity (Logistics Cluster, 2024d). The operations at the container yard are carried out by 14 rubber-tyred transtainers and 17 reach stackers of 40 tons capacity, together with 12 containers (Logistics Cluster, 2024d). Reefer facilities for refrigerated containers are also available. The berths and the yard behind are well equipped with modern handling facilities.

ICMC transport verification protocol assessment

Transport Practice 1.1: Select cyanide transport routes to minimise the potential for accidents and releases

Orica uses reputable shipping lines for the transportation of sodium cyanide manufactured by Orica or manufactured by third parties on behalf of Orica (Orica, 2024a).

Orica’s Sodium Cyanide Transport Management protocol (Orica, 2024a) states that all routes used for sodium cyanide transport must undergo a risk assessment to determine their suitability. If multiple routes are available, each one requires an individual risk assessment. These assessments are conducted in accordance with the Route Risk Assessment (Orica, 2024c) and AS 4360:2004 Risk Management standards. Any risks identified as “extreme” must be prioritised and addressed through the development of an action plan to mitigate these risks as much as possible. The process for documenting the risks associated with selected routes is outlined in the Route Risk Assessment (Orica, 2024c).

Feedback regarding the routes is taken into consideration and forwarded to the Health, Safety & Environment (HS&E) Officer for the necessary updates to the route assessment. This information is also shared with the Orica representative in the relevant region (Orica, 2024a).

In situations where special safety measures or concerns are present, or where escorts are required, compliance with SUP-GLO-PRO-024 is mandatory. Additionally, Carrier Safety Programs should align with the requirements of SUP-GLO-PRO-005 (Orica, 2024a).

The port of Izmir is selected on the basis that it is the closest port to the customer and that it meets all reasonable industry standards for safety, security and emergency response.

Transport Practice 1.5: Follow international standards for transportation of cyanide by sea

Orica’s manufacturing facility and transfer stations are ICMC certified, therefore, sodium cyanide is packaged and transported in accordance with international regulatory standards and in line with all requirements of the International Maritime Dangerous Goods Code (IMDG) and the current versions of the United Nations Dangerous Goods Transport Guidelines, the Australian Code for the Transport of Dangerous Goods by Road and Rail and the International Maritime Dangerous Goods Code (Orica, 2024a).

Carriers are required to provide manifest documentation, to satisfy local customs regulations and the requirements of the International Maritime Dangerous Goods (IMDG) Code (IMO, 2024b), to the destination port. The manifest should contain a list of the cargo types and in the case of sodium cyanide and any other hazardous cargo the quantity, unique packaging numbers, stowage reference and emergency response procedures. Assessment of transportation agencies is via the Orica Carrier Assessment Questionnaire found in SUP-GLO-PRO-016, which enables a self-assessment and external assessment. A scoring system is included in this assessment process with minimum standards detailed (Orica, 2024a).

Turkey is an International Maritime Organization (IMO) Member State (1958) (IMO, Member States, 2024a) and a Safety of Life at Sea (SOLAS) Signatory Nation (1980) (IMO, 2024c), thereby requiring the Port of Izmir to adhere to the international regulations for the transportation and handling of dangerous goods as set out in the IMDG Code (Parts 4, 5 and 7) and the SOLAS Convention 1974 (Chapter 7) (IMO, 2024b) & (IMO, 2024c).

Transport Practice 1.6: Track cyanide shipments to prevent losses during transport

The port Authority organises ship movements, tracks pilotage operations, and supervises terminal operations via real-time closed-circuit television (CCTV) monitoring (WSP Australia Pty Ltd, 2023).

Chain of custody documentation is used by shipping companies to prevent the loss of cargo during shipment. This documentation includes the vessel manifest which identifies the location and content of each container on the vessel along with packing certificates, Multimodal Dangerous Goods Forms and Safety Data Sheets (SDS).

As a SOLAS signatory nation, it is obligated to transmit Long-Range Identification and Tracking (LRIT) information. This system provides global identification and tracking of ships for security, safety and protection of marine environment (IMO, 2024c).

Transport Practice 2.1: Store cyanide in a manner that minimises the potential for accidental releases

Open yard storage facilities at Izmir consist of nearly 215,940 m^2 and 27, 000 m^2 covered areas including a designated hazardous cargo warehouse (Logistics Cluster, 2024d). Storage in transit may occur if receipt at the port is delayed. Cargo handling and storage services are provided at the port using modern equipment and staff 7 days a week, 24 hours a day. The International Ship and Port Facility Security Code (ISPS) is implemented and security and access control are provided at the port including CCTV, controlled access points and perimeter security (IMO, SOLAS XI-2 and the ISPS Code, 2024).

Transport Practice 3.1: Prepare detailed emergency response plans for potential cyanide releases

Turkey has been a member State of the International Maritime Organization (IMO) Member since 1958 (IMO, Member States, 2024a), it complies with the requirements of the IMDG Code (IMO, 2024b).

Pollution response in Turkey is governed under Act 5312 Law Concerning the Principles of Emergency Response and Compensation for Damages for Pollution of the Marine Environment by Oil and Other Harmful Substances (ITOPF, 2024). The Undersecretariat for Maritime Affairs has ultimate responsibility for dealing with oil pollution at sea and the Ministry of Environment and Urbanisation undertakes or causes to be undertaken the necessary response measures. In the event of an incident, a Damage Commission of these authorities is usually convened and chaired by the Provincial Head of the Ministry of Environment and Urbanisation (ITOPF, 2024).

At local level, a governor or mayor may direct the Damage Commission. Local responsibility is designated to managers of individual ports or, in the case of spills at sea, to the Turkish Navy. Oil on shore would normally be dealt with by the municipalities or installation concerned (ITOPF, 2024).

Turkey has regional and national emergency response plans based on a tiered response structure.

Conclusion

Based on the evidence reviewed, this due diligence did not find significant issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work; rather it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

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B27 Port of Jakarta, Indonesia

29 February 2024

PS211281 027. RevA

Author: Megan Wood Approved: Rudi Seebach

Port due diligence executive summary

WSP Pty Ltd (WSP) conducted a due diligence of the Port of Jakarta, Indonesia during February 2024 on behalf of Orica Australia Pty Ltd (Orica).

The assessment was reviewed by Rudi Seebach who meets the International Cyanide Management Institute's (ICMI) requirements for a Transport Technical Specialist.

The following items, as detailed in the ICMI's Auditor Guidance for Use of the Cyanide Transportation Verification Protocol (ICMI 2021), were addressed within the due diligence:

- Transport Practice 1.1 (Questions 1-4 and 6)
- Transport Practice 1.5 (Question 1)
- Transport Practice 1.6
- Transport Practice 2.1
- Transport Practice 3.1.

The ICMI's *Auditor Guidance for Use of Cyanide Transportation Verification Protocol* (ICMI 2021) was used to conduct the due diligence assessment. It was not possible during this due diligence to physically inspect operations, as such the review was based on information obtained from previous due diligence reviews, ICMI audit reports and publicly available online information. Based on the evidence reviewed, this due diligence did not find issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work. Instead, it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

Overview of the Port of Jakarta, Indonesia

The port of Jakarta (also known as Tanjung Priok) lies on the north-west coast of the island of Java at the mouth of the Ciliwung River (Britannica, 2024). The port is the busiest port in Indonesia. It handles more than 30% of non-oil-and-gas cargo in the country, and around 50% of the entire flow of goods into and out of Indonesia (Logistics Cluster, 2024e). The comprehensive intermodal transport and modern technology facilities at the port allow it to connect to a network of cities in Indonesia (Logistics Cluster, 2024e).

The port of Jakarta contains twenty terminals devoted to general, dry bulk, liquid bulk, and containerised cargoes. Specialised terminals handle oil, chemicals, scrap, and passengers (Seabay Logistics, 2024). The port of Jakarta has 81 berths with a total length over 12.8 kilometre (km) with alongside depths ranging from 3 to 14 m (Logistics Cluster, 2024e). The port of Jakarta also contains storage yards areas of 1,995,074 m^2 (Logistics Cluster, 2024e).

Indonesia ports Corporation Tanjung Priok (IPC or PELINDO II) branch manages vessel traffic in port waters and basins, including anchoring and berthing of cargo ships (Logistics Cluster, 2024e).

ICMC transport verification protocol assessment

Transport Practice 1.1: Select cyanide transport routes to minimise the potential for accidents and releases

Orica uses reputable shipping lines for the transportation of sodium cyanide manufactured by Orica or manufactured by third parties on behalf of Orica (Orica, 2024a).

Orica's Sodium Cyanide Transport Management protocol (Orica, 2024a) states that all routes used for sodium cyanide transport must undergo a risk assessment to determine their suitability. If multiple routes are available, each one requires an individual risk assessment. These assessments are conducted in accordance with the Route Risk Assessment (Orica, 2024c) and AS 4360:2004 Risk Management standards. Any risks identified as "extreme" must be prioritised and addressed through the development of an action plan to mitigate these risks as much as possible. The process for documenting the risks associated with selected routes is outlined in the Route Risk Assessment (Orica, 2024c).

Feedback regarding the routes is taken into consideration and forwarded to the Health, Safety & Environment (HS&E) Officer for the necessary updates to the route assessment. This information is also shared with the Orica representative in the relevant region (Orica, 2024a).

In situations where special safety measures or concerns are present, or where escorts are required, compliance with SUP-GLO-PRO-024 is mandatory. Additionally, Carrier Safety Programs should align with the requirements of SUP-GLO-PRO-005 (Orica, 2024a).

The port is selected on the basis that it is the closest port to the customer and that it meets all reasonable industry standards for safety, security and emergency response.

Transport Practice 1.5: Follow international standards for transportation of cyanide by sea

Orica's manufacturing facility and transfer stations are ICMC certified, therefore, sodium cyanide is packaged and transported in accordance with international regulatory standards and in line with all requirements of the International Maritime Dangerous Goods Code (IMDG) and the current versions of the United Nations Dangerous Goods Transport Guidelines, the Australian Code for the Transport of Dangerous Goods by Road and Rail and the International Maritime Dangerous Goods Code (Orica, 2024a).

Carriers are required to provide manifest documentation, to satisfy local customs regulations and the requirements of the International Maritime Dangerous Goods (IMDG) Code (IMO, 2024b), to the destination port. The manifest should contain a list of the cargo types and in the case of sodium cyanide and any other hazardous cargo the quantity, unique packaging numbers, stowage reference and emergency response procedures. Assessment of transportation agencies is via the Orica Carrier Assessment Questionnaire found in SUP-GLO-PRO-016, which enables a self-assessment and external assessment. A scoring system is included in this assessment process with minimum standards detailed (Orica, 2024a).

Indonesia is an International Maritime Organization (IMO) Member State (1961) (IMO, Member States, 2024a) and a Safety of Life at Sea (SOLAS) Signatory Nation (1981) (ICSLAS, 2024), thereby requiring the Port of Jakarta to adhere to the international regulations for the transportation and handling of dangerous goods as set out in the IMDG Code (Parts 4, 5 and 7) and the SOLAS Convention 1974 (Chapter 7) (IMO, 2024b) & (IMO, 2024c).

Transport Practice 1.6: Track cyanide shipments to prevent losses during transport

Port Operators are fully aware when sodium cyanide containers are to arrive at the port. The stevedores receive the vessel's manifest along with other shipping information prior to arrival (WSP Australia Pty Ltd, 2023). This includes unloading and handling information of dangerous goods for the port, this information is then captured in the terminal operator's advanced information management system allowing for the complete traceability of cargoes within the port.

Indonesia has National regulations in place for the minimum requirements for radio-communication and ship tracking in Indonesian waters and port facilities, the Port of Jakarta ensures all vessels satisfy and abide by these regulations.

All transhipping operations are carried out in a dedicated dangerous goods area by suitably trained personnel. The transhipping operations are monitored by the port's closed-circuit television (CCTV) system and the containers are tracked to record the positioning of the containers within the dangerous goods storage areas (WSP Australia Pty Ltd, 2023).

Following final clearance, the consignment is placed on road transport vehicles for the inland transportation leg to the relevant end destination. These road transport vehicles are owned by the ICMI accredited transport company providing the road transport service.

As a SOLAS signatory nation, it is obligated to transmit Long-Range Identification and Tracking (LRIT) information. This system provides global identification and tracking of ships for security, safety and protection of marine environment (IMO, 2024c).

Transport Practice 2.1: Store cyanide in a manner that minimises the potential for accidental releases

Port and vessel security are managed through the International Ship and port Facility Security Code (ISPS Code). The ISPS Code is a comprehensive set of measures to enhance security of ships and port facilities. All vessels calling at Indonesian ports must meet ISPS requirements (IMO, SOLAS XI-2 and the ISPS Code, 2024).

The purpose of the ISPS Code is to provide a standardised, consistent framework for evaluating risk, enabling Governments to offset changes in threat with changes in vulnerability for ships and port facilities through determination of appropriate security levels and corresponding security measures. The ISPS Code takes the approach that ensuring the security of ships and port facilities is a risk management activity and that, to determine what security measures are appropriate, an assessment of the risks must be made in each case (IMO, SOLAS XI-2 and the ISPS Code, 2024).

The port of Jakarta operates under a suite of National regulations that ensure compliance with the above. For the handling and storage of dangerous goods, these regulations ensure that shipments of cyanide are authorised for discharge from the vessel, handled by appropriately trained personnel, stored in designated and secured areas, segregated according to dangerous goods classes, and removed from the port in a timely manner. As per the 'Regulation of the Minister of Trade No. 7 of 2022', regarding the distribution and control of hazardous substances, consignors for the distribution of certain hazardous substance and are required to obtain a permit to handle hazardous goods and must report the distribution results to the regulatory authority (Aoki Kenji, 2022).

The port has restricted access, and the Dispatch Centre organises ship movements, tracks pilotage operations, and supervises terminal operations via real-time CCTV monitoring. All sodium cyanide transited through the Port of Jakarta always remains sealed within containers.

Security requirements are also addressed under National regulations and the Port of Jakarta satisfies the conditions set out for security personnel and check points, monitoring and surveillance systems.

Transport Practice 3.1: Prepare detailed emergency response plans for potential cyanide releases

Indonesia has been a Member State of the IMO State Member since 1961 (IMO, Member States, 2024a) and complies with the requirements of the IMDG Code (IMO, 2024b).The Indonesian Government also has national standards in place for the transportation, handling and storage of hazardous substances. In addition, they are part of the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW), and comply with the requirements of IMDG code and STCW emergency, occupational safety, medical care and survival functions (IMO, 1978)

Indonesia is certified under the International Convention on Oil Pollution Preparedness, Response and Cooperation, 1990 (OPRC 90) (United Nations, 1995). States which are party to OPRC 90 are required to establish a national system for responding to oil and hazardous/noxious substances pollution incidents, including a designated national authority, a national operational contact point and a national contingency plan. This needs to be supported by a minimum level of response equipment, communications plans, and regular training and exercises (ITOPF, 2024).

Indonesia's National Oil Spill Contingency Plan (NOSCP) extends to hazardous and noxious substances (HNS). In the event of an emergency, the National Team for Oil Spill Response would provide the technical expertise, with input from other institutions, government departments, the private sector and other non-government organisations. The National Team through its Command and Control Centre would carry out the response, using personnel, equipment and materials belonging to its member organisations in the vicinity of the emergency incident (ITOPF, 2024).

The Directorate General of Sea Transportation (DGST) is the competent authority and administers the Plan for dealing with pollution by oil and other noxious substances in marine and freshwater environments. The DGST has equipment which could be utilised for HNS spills and is supported by further equipment from the oil industry (ITOPF, 2024).

Conclusion

Based on the evidence reviewed, this due diligence did not find significant issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work; rather it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

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B28 Port of Lae, Papua New Guinea

29 February 2024

PS211281 028. RevA

Author: Megan Wood Approved: Rudi Seebach

Port due diligence executive summary

WSP Pty Ltd (WSP) conducted a due diligence of the Port of Lae, Papua New Guinea during February 2024 on behalf of Orica Australia Pty Ltd (Orica).

The assessment was reviewed by Rudi Seebach who meets the International Cyanide Management Institute's (ICMI) requirements for a Transport Technical Specialist.

The following items, as detailed in the ICMI's Auditor Guidance for Use of the Cyanide Transportation Verification Protocol (ICMI 2021), were addressed within the due diligence:

- Transport Practice 1.1 (Questions 1-4 and 6)
- Transport Practice 1.5 (Question 1)
- Transport Practice 1.6
- Transport Practice 2.1
- Transport Practice 3.1.

The ICMI's *Auditor Guidance for Use of Cyanide Transportation Verification Protocol* (ICMI 2021) was used to conduct the due diligence assessment. It was not possible during this due diligence to physically inspect operations, as such the review was based on information obtained from previous due diligence reviews, ICMI audit reports and publicly available online information. Based on the evidence reviewed, this due diligence did not find issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work. Instead, it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

Overview of the Port of Lae, Papua New Guinea

The port of Lae is Papua New Guinea's (PNG's) largest and busiest port, located in the Morobe province of PNG, Lae is the second largest city and the capital of the province (Logistics Cluster, 2024f). The port handles bulk cargo, tankers and liquefied natural gas carries, Roll on Roll off (RoRo) vessels and general container cargo. There are no wharf mounted gantry cranes, but forklifts are available and capable of lifting to 20 tonne containers The port has five berths with a total length of 520 m, a total storage area of 53,620 m^2 for cargo marshaling, and maximum depth of 13.7 m. Port of Lae handles approximately half of the throughput of PNG's 22 declared ports, and more than 60% of the international and coastal trade registered in PNG ports Corporation Limited (PNGPCL) ports, it generates more than 50% of PNGPCL's total revenue (Logistics Cluster, 2024f).

Lae serves as a gateway linking the world market with a large hinterland comprising Morobe province, the city of Lae (PNG's industrial and commercial centre), and five resource-rich provinces in the Highlands (Logistics Cluster, 2024f). PNG's most significant road, the Highlands Highway, runs from Lae to the Highlands region, dispensing imports ranging from heavy machinery to food products in the region and bringing the country's major export items to the port.

Port operations include (WSP Australia Pty Ltd, 2023):

- The approach of the vessels to the port will consider channels, special navigation points, currents, tides, and weather.
- Entry into the port is controlled by the port's Pilot who understands the port protocols and any unique issues regarding the approach and docking of a vessel at the port. The Ship's Captain works in conjunction with the Pilot as they understand the vessel and can implement and assist with the Pilot's instructions.
- Port protocols exist for docking of vessels (e.g.,, use of Pilots and tugboats, management of different weather conditions, tides, currents and safety and general port operations), which support the safe docking and turnaround of vessels in and out of the port.
- Once a vessel is secure alongside the wharf, the shipping activities changeover to port activities. The vessel's manifest of what containers are required to be unloaded, including the manifest for containers for loading are handed over. This manifest identifies hazardous cargos and their United Nations (UN) number, classification, and segregation requirements.

The stevedoring service providers (Lae port Services Pty Ltd and United Stevedores) manage the onshore (wharf) operations at the dedicated container terminal. This is the terminal currently used by ICMI accredited transporters to facilitate the unloading of their vessels. Stevedoring operations include (WSP Australia Pty Ltd, 2023):

- Handling of containers whether full or empty on and off the vessels; container storage areas for general cargo, port security, control systems for companies and their vehicles, and collecting and/or delivering containers.
- Software programs that control container placement and movement; these software packages identify each individual container placement area in designated stacks. The input information for the placement of containers originates from the vessel's manifest.

When cyanide containers are discharged from a vessel, the normal practice is for the containers to be loaded directly onto onward transport trucks and to be removed from the port.

ICMC transport verification protocol assessment

Transport Practice 1.1: Select cyanide transport routes to minimise the potential for accidents and releases

Orica uses reputable shipping lines for the transportation of sodium cyanide manufactured by Orica or manufactured by third parties on behalf of Orica (Orica, 2024a).

Orica's Sodium Cyanide Transport Management protocol (Orica, 2024a) states that all routes used for sodium cyanide transport must undergo a risk assessment to determine their suitability. If multiple routes are available, each one requires an individual risk assessment. These assessments are conducted in accordance with the Route Risk Assessment (Orica, 2024c) and AS 4360:2004 Risk Management standards. Any risks identified as "extreme" must be prioritised and addressed through the development of an action plan to mitigate these risks as much as possible. The process for documenting the risks associated with selected routes is outlined in the Route Risk Assessment (Orica, 2024c).

Feedback regarding the routes is taken into consideration and forwarded to the Health, Safety & Environment (HS&E) Officer for the necessary updates to the route assessment. This information is also shared with the Orica representative in the relevant region (Orica, 2024a).

In situations where special safety measures or concerns are present, or where escorts are required, compliance with SUP-GLO-PRO-024 is mandatory. Additionally, Carrier Safety Programs should align with the requirements of SUP-GLO-PRO-005 (Orica, 2024a).

The port of Lae serves as a gateway linking the world market with a large hinterland comprising Morobe province, the city of Lae (PNG's industrial and commercial centre), and five resource-rich provinces in the Highlands (Logistics Cluster, 2024f). PNG's most significant road, the Highlands Highway, runs from Lae to the Highlands region, dispensing imports ranging from heavy machinery to food products in the region (Logistics Cluster, 2024f)

Transport Practice 1.5: Follow international standards for transportation of cyanide by sea

Orica's manufacturing facility and transfer stations are ICMC certified, therefore, sodium cyanide is packaged and transported in accordance with international regulatory standards and in line with all requirements of the International Maritime Dangerous Goods Code (IMDG) and the current versions of the United Nations Dangerous Goods Transport Guidelines, the Australian Code for the Transport of Dangerous Goods by Road and Rail and the International Maritime Dangerous Goods Code (Orica, 2024a).

Carriers are required to provide manifest documentation, to satisfy local customs regulations and the requirements of the International Maritime Dangerous Goods (IMDG) Code (IMO, 2024b), to the destination port. The manifest should contain a list of the cargo types and in the case of sodium cyanide and any other hazardous cargo the quantity, unique packaging numbers, stowage reference and emergency response procedures. Assessment of transportation agencies is via the Orica Carrier Assessment Questionnaire found in SUP-GLO-PRO-016, which enables a self-assessment and external assessment. A scoring system is included in this assessment process with minimum standards detailed (Orica, 2024a).

PNG is an International Maritime Organization (IMO) Member State (1976) (IMO, Member States, 2024a) and a Safety of Life at Sea (SOLAS) Signatory Nation (1980) (IMO, SOLAS XI-2 and the ISPS Code, 2024), thereby requiring the Port of Lae to adhere to the international regulations for the transportation and handling of dangerous goods as set out in the IMDG Code (Parts 4, 5 and 7) (IMO, 2024b) and the SOLAS Convention 1974 (Chapter 7) (IMO, 2024b) & (IMO, 2024c).

PNG's maritime and merchant shipping legislation and their supporting regulations were enacted to ensure compliance with international standards and best shipping practices that are accepted universally by the maritime nations in the world under the auspices of the IMO (NMSA, 2024).

Transport Practice 1.6: Track cyanide shipments to prevent losses during transport

The Control Centre organises ship movements, tracks pilotage operations, and supervises terminal operations via real-time closed-circuit television (CCTV) monitoring (WSP Australia Pty Ltd, 2023).

Chain of custody documentation is used by shipping companies to prevent the loss of cargo during shipment. This documentation includes the vessel manifest which identifies the location and content of each container on the vessel along with packing certificates, Multimodal Dangerous Goods Forms and Safety Data Sheets (SDS) (WSP Australia Pty Ltd, 2023).

When cargo is discharged, the stevedores check the security seals against the manifest and discharge paperwork. If the seals do not match, the cargo owner is notified. Clerks match up paperwork with what has been discharged against the vessel manifests.

As a SOLAS signatory nation, it is obligated to transmit Long-Range Identification and Tracking (LRIT) information. This system provides global identification and tracking of ships for security, safety and protection of marine environment (IMO, 2024c).

Transport Practice 2.1: Store cyanide in a manner that minimises the potential for accidental releases

In general, port and vessel security are managed through the International Ship and Port Facility Security Code (ISPS Code). The ISPS Code is a comprehensive set of measures to enhance security of ships and port facilities and provides a standardised, consistent framework for evaluating risk, enabling Governments to offset changes in threat with changes in vulnerability for ships and port facilities through determination of appropriate security levels and corresponding security measures. The ISPS Code takes the approach that ensuring the security of ships and port facilities is a risk management activity and that, to determine what security measures are appropriate, an assessment of the risks must be made in each case (IMO, SOLAS XI-2 and the ISPS Code, 2024).

As a state member of IMO and The International Convention for the Prevention of Pollution from Ships (MARPOL) 73/78, it ensures the requirements for inspection and reporting of an incident involving harmful substance.

The Marchant Shipping (Dangerous Goods) Regulation 2007 of New Papua Guinea requires any dangerous goods to be thoroughly inspected to avoid leakages or spillage before taking over. PNG ports work to the requirements of the International Maritime Organization's International Ship and port Facility Security Code (NMSA, 2024).

Transport Practice 3.1: Prepare detailed emergency response plans for potential cyanide releases

The NMSA is the national authority for PNG. PNG has been a member State of the IMO Council since 1976 (IMO, Member States, 2024a), it complies with the requirements of the IMDG Code (IMO, 2024b).

The port of Lae has a National Marine Spill Contingency Plan (NATPLAN) and emergency management plan in place (National Maritime Safety Authority, 2024). The emergency plan identifies three evacuation muster points, and that communication is to be completed through radios.

As per 'article 17 of Marchant Shipping (Dangerous Goods) Regulation 2007' of Papua New Guinea the owner or agent of the ship is required to ensure that the dangerous goods cargo is accompanied with information providing emergency response and must include contingency plans and specific emergency response information for all type of dangerous goods. Further, the emergency response plan needs to be consistent with safety management system adopted (NMSA, 2024).

Conclusion

Based on the evidence reviewed, this due diligence did not find significant issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work; rather it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

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B29 Port of Laem Chabang, Thailand

29 February 2024

PS211281 029. RevA

Author: Megan Wood Approved: Rudi Seebach

Port due diligence executive summary

WSP Pty Ltd (WSP) conducted a due diligence of the Port of Laem Chabang, Thailand during February 2024 on behalf of Orica Australia Pty Ltd (Orica).

The assessment was reviewed by Rudi Seebach who meets the International Cyanide Management Institute's (ICMI) requirements for a Transport Technical Specialist.

The following items, as detailed in the ICMI's Auditor Guidance for Use of the Cyanide Transportation Verification Protocol (ICMI 2021), were addressed within the due diligence:

- Transport Practice 1.1 (Questions 1-4 and 6)
- Transport Practice 1.5 (Question 1)
- Transport Practice 1.6
- Transport Practice 2.1
- Transport Practice 3.1.

The ICMI's *Auditor Guidance for Use of Cyanide Transportation Verification Protocol* (ICMI 2021) was used to conduct the due diligence assessment. It was not possible during this due diligence to physically inspect operations, as such the review was based on information obtained from previous due diligence reviews, ICMI audit reports and publicly available online information. Based on the evidence reviewed, this due diligence did not find issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work. Instead, it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

Overview of the Port of Laem Chabang, Thailand

The port of Laem Chabang is situated on the eastern side of Thailand, southeast of Bangkok and north of Pattaya, and covers an area of 1,040 hectares (Laem Chabang Port, 2024). Laem Chabang is Thailand's main deep seaport and currently handles over 1 million Twenty-foot Equivalent Units (TEUs) annually. The port Authority of Thailand governs the activities and operations of the Port of Laem Chabang (Laem Chabange Port, 2024).

Thailand's strategic geographical location and close proximity to neighbouring countries such as Myanmar, Laos, Cambodia and Malaysia enables Laem Chabang to act as a gateway port for South East Asia for international trade and goods import. Furthermore, Laem Chabang is well connected to its neighbouring hinterland via a sophisticated network of highways, railways, and waterways (WSP Australia Pty Ltd, 2023).

The port of Laem Chabang consists of several minor ports that provide services including seven container terminals, one multipurpose terminal, one roll on roll off (RO-RO) terminal, one passengers and RO-RO terminal, one general cargo terminal, and one shipyard terminal. Laem Chabang port can also handle extra large ships (Laem Chabange Port, 2024).

Port operations include (WSP Australia Pty Ltd, 2023):

- The approach of the vessel to the port will take into any account any channels, special navigation points and as mentioned above the currents, tides, and weather.
- Entry into port is controlled by the port's Pilot who understands the port protocols and any unique issues regarding the approach and docking of a vessel at the port. The Ship's Captain works in conjunction with the Pilot as he understands his vessel and can implement and assist with the Pilot's instructions.
- Port protocols exist for docking of vessels (e.g., use of Pilots, use of tugboats, management of different weather conditions, tides, currents and safety and general port operations). This sees to the safe docking and turnaround of the vessels in and out of the port.
- Once a vessel is secure alongside the wharf the shipping activities changeover to port activities. The vessels manifest of what containers are required to be unloaded from the vessel, including the manifest for containers for loading are handed over. This manifest will identify hazardous cargos and their UN number and classification and segregation requirements.

Multiple third-party stevedoring companies manage the onshore (wharf) operations at the container terminals. Stevedoring operations include (WSP Australia Pty Ltd, 2023):

- Handling of the containers whether full or empty on and off the vessels; container storage areas for general cargo, port security, control systems for companies and their vehicles collecting and or delivering containers.
- Software programs that control container placement and movement; these software packages identify each individual container placement area in designated stacks. The input information for the placement of containers comes from the vessel's manifest.

ICMC transport verification protocol assessment

Transport Practice 1.1: Select cyanide transport routes to minimise the potential for accidents and releases

Orica uses reputable shipping lines for the transportation of sodium cyanide manufactured by Orica or manufactured by third parties on behalf of Orica (Orica, 2024a).

Orica's Sodium Cyanide Transport Management protocol (Orica, 2024a) states that all routes used for sodium cyanide transport must undergo a risk assessment to determine their suitability. If multiple routes are available, each one requires an individual risk assessment. These assessments are conducted in accordance with the Route Risk Assessment (Orica, 2024c) and AS 4360:2004 Risk Management standards. Any risks identified as "extreme" must be prioritised and addressed through the development of an action plan to mitigate these risks as much as possible. The process for documenting the risks associated with selected routes is outlined in the Route Risk Assessment (Orica, 2024c).

Feedback regarding the routes is taken into consideration and forwarded to the Health, Safety & Environment (HS&E) Officer for the necessary updates to the route assessment. This information is also shared with the Orica representative in the relevant region (Orica, 2024a).

In situations where special safety measures or concerns are present, or where escorts are required, compliance with SUP-GLO-PRO-024 is mandatory. Additionally, Carrier Safety Programs should align with the requirements of SUP-GLO-PRO-005 (Orica, 2024a).

Thailand's strategic geographical location and close proximity to neighbouring countries such as Myanmar, Laos, Cambodia and Malaysia, enables the Port of Laem Chabang to act as a gateway port for Southeast Asia. The port is well connected to its neighbouring hinterland via a sophisticated network of highways, railways and waterways.

Transport Practice 1.5: Follow international standards for transportation of cyanide by sea

Orica's manufacturing facility and transfer stations are ICMC certified, therefore, sodium cyanide is packaged and transported in accordance with international regulatory standards and in line with all requirements of the International Maritime Dangerous Goods Code (IMDG) and the current versions of the United Nations Dangerous Goods Transport Guidelines, the Australian Code for the Transport of Dangerous Goods by Road and Rail and the International Maritime Dangerous Goods Code (Orica, 2024a).

Carriers are required to provide manifest documentation, to satisfy local customs regulations and the requirements of the International Maritime Dangerous Goods (IMDG) Code (IMO, 2024b), to the destination port. The manifest should contain a list of the cargo types and in the case of sodium cyanide and any other hazardous cargo the quantity, unique packaging numbers, stowage reference and emergency response procedures. Assessment of transportation agencies is via the Orica Carrier Assessment Questionnaire found in SUP-GLO-PRO-016, which enables a self-assessment and external assessment. A scoring system is included in this assessment process with minimum standards detailed (Orica, 2024a).

Thailand is an International Maritime Organization (IMO) Member State (1973) (IMO, Member States, 2024a) and a Safety of Life at Sea (SOLAS) Signatory Nation (1984) (IMO, 2024c), thereby requiring the Port of Laem Chabang to adhere to the international regulations for the transportation and handling of dangerous goods as set out in the IMDG Code (Parts 4, 5 and 7) (IMO, 2024b) and the SOLAS Convention 1974 (Chapter 7) (IMO, 2024b) & (IMO, 2024c).

Transport Practice 1.6: Track cyanide shipments to prevent losses during transport

The Control Centre Building organises ship movements, tracks pilotage operations, and supervises terminal operations.

Chain of custody documentation is used by shipping companies to prevent the loss of cargo during shipment. This documentation includes the vessel manifest which identifies the location and content of each container on the vessel along with packing certificates, Multimodal Dangerous Goods Forms and Safety Data Sheets (WSP Australia Pty Ltd, 2023).

Dangerous goods containers are taken from the vessel and placed into a secure holding facility. Owners of the cargo, or their customs broker, who wish to export the dangerous goods from the port area must comply with Customs Formalities and submit the required documentation prior to the goods being discharged (WSP Australia Pty Ltd, 2023).

As a SOLAS signatory nation, it is obligated to transmit Long-Range Identification and Tracking (LRIT) information. This system provides global identification and tracking of ships for security, safety and protection of marine environment (IMO, 2024c).

Transport Practice 2.1: Store cyanide in a manner that minimises the potential for accidental releases

Port and vessel security are managed through the International Ship and port Facility Security Code (ISPS Code). The ISPS Code is an internationally recognised, comprehensive set of measures aimed at enhancing the security of ships and port facilities. The purpose of the ISPS Code is to provide a standardised, consistent framework for evaluating risk, enabling Governments to offset changes in threat with changes in vulnerability for ships and port facilities through a determination of appropriate security levels and corresponding security measures (IMO, SOLAS XI-2 and the ISPS Code, 2024).

As per Clause 9, 10 and 11 of Ministerial Regulation B.E. 2537 (1994) Produce, Import, Export or have in Possession Hazardous Substances) the Port of Laem Chabang has a dedicated dangerous goods warehouse for the storage of specialised products including sodium cyanide (Department of Industrial Works, Ministry of Industry, 1994). Sodium cyanide transited through the Port of Laem Chabang is temporary and remains on site for less than a day. This is a management measure to minimise potential for accidental releases during storage. Sodium cyanide is considered a Class 3 Dangerous Goods item and when discharged from a vessel is taken immediately to the Dangerous Goods Warehouse.

All sodium cyanide transited through the Port of Laem Chabang remains contained within its sealed containers at all times preventing contact with water and other incompatible materials.

Transport Practice 3.1: Prepare detailed emergency response plans for potential cyanide releases

Thailand has been a member State of the IMO Council since 1973 (IMO, Member States, 2024a), it complies with the requirements of the IMDG Code (IMO, 2024b).

The port of Laem Chabang is certified under the IMO’s International Convention on Oil Pollution Preparedness, Response and Cooperation 1990 (United Nations, 1995). States which are party to OPRC 90 protocol are required to establish a national system for responding to oil and hazardous/noxious substances pollution incidents, including a designated national authority, a national operational contact point and a national contingency plan. This needs to be supported by a minimum level of response equipment, communications plans, regular training and exercises ((ITOPF, 2024).

The Marine Department, as part of the Ministry of Transport, is the competent authority and lead agency for dealing with pollution by oil and other noxious substances in marine and freshwater environments. The Pollution Control Department of the Ministry of Natural Resources and Environment is responsible for land-based pollution. Although established primarily to set and enforce discharge standards, this department would advise on shoreline clean-up.

Oil companies have developed Tier 1 contingency plans to respond to spills at their facilities and have formed the Industry Environmental Safety Association, an industry cooperative designed to facilitate the movement of resources between companies and locations in the event of an emergency incident (WSP Australia Pty Ltd, 2023).

At Laem Chabang, terminal operators, dangerous goods warehouse operators and other stevedoring service providers must submit emergency response plans to the Laem Chabang port Authority that provide emergency response procedures for events such as, a dangerous goods leak or an accident occurring during handling (Port Authority Thailand).

Conclusion

Based on the evidence reviewed, this due diligence did not find significant issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work; rather it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

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B30 Port of Lazaro Cardenas, Mexico

29 February 2024

PS211281 030. RevA

Author: Megan Wood Approved: Rudi Seebach

Port due diligence executive summary

WSP Pty Ltd (WSP) conducted a due diligence of the Port of Lazaro Cardenas during February 2024, on behalf of Orica Australia Pty Ltd (Orica).

The assessment was reviewed by Rudi Seebach, who meets the International Cyanide Management Institute's (ICMI) requirements for a Transport Technical Specialist.

The following items, as detailed in the ICMI's Auditor Guidance for Use of Cyanide Transportation Verification Protocol, June 2021 (ICMI 2022), were addressed within the due diligence:

- Transport Practice 1.1 (Questions 1-4 and 6)
- Transport Practice 1.5 (Question 1)
- Transport Practice 1.6
- Transport Practice 2.1
- Transport Practice 3.1.

The ICMI's *Auditor Guidance for Use of Cyanide Transportation Verification Protocol, June 2021* (ICMI 2022) was used to conduct the due diligence assessment. It was not possible during this due diligence to physically inspect operations, as such the review was based on information obtained from previous due diligence reviews, ICMI audit reports and publicly available online information. Based on the evidence reviewed, this due diligence did not find issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work. Instead, it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

Overview of the Port of Lazaro Cardenas, Mexico

The Port of Lazaro Cardenas is located within the Mexican State of Michoacán. The port is owned and operated by the Mexican government and is one of its largest seaports. It is the deepest port in Mexico handling 2.2 million twenty-foot equivalent units (TEU) of, dry bulk, and liquid cargo annually (Seabay Logistics, 2024).

The port is strategically located having direct access to a highway, rail connection and fifteen intermodal terminals. There is daily departure of two railways within Mexico and the United States with a capacity of up to 240 containers (WSP Australia Pty Ltd, 2023).

ICMC transport verification protocol assessment

Transport Practice 1.1: Select cyanide transport routes to minimise the potential for accidents and releases

Orica uses reputable shipping lines for the transportation of sodium cyanide manufactured by Orica or manufactured by third parties on behalf of Orica (Orica, 2024a).

Orica's Sodium Cyanide Transport Management protocol (Orica, 2024a) states that all routes used for sodium cyanide transport must undergo a risk assessment to determine their suitability. If multiple routes are available, each one requires an individual risk assessment. These assessments are conducted in accordance with the Route Risk Assessment (Orica, 2024c) and AS 4360:2004 Risk Management standards. Any risks identified as "extreme" must be prioritised and addressed through the development of an action plan to mitigate these risks as much as possible. The process for documenting the risks associated with selected routes is outlined in the Route Risk Assessment (Orica, 2024c).

Feedback regarding the routes is taken into consideration and forwarded to the Health, Safety & Environment (HS&E) Officer for the necessary updates to the route assessment. This information is also shared with the Orica representative in the relevant region (Orica, 2024a).

In situations where special safety measures or concerns are present, or where escorts are required, compliance with SUP-GLO-PRO-024 is mandatory. Additionally, Carrier Safety Programs should align with the requirements of SUP-GLO-PRO-005 (Orica, 2024a).

The Port of Lazaro Cardenas was selected based on it being the largest seaport in the region, with modern and capable infrastructure that is located a key strategic location.

Transport Practice 1.5: Follow international standards for transportation of cyanide by sea

Orica's manufacturing facility and transfer stations are ICMC certified, therefore, sodium cyanide is packaged and transported in accordance with international regulatory standards and in line with all requirements of the International Maritime Dangerous Goods Code (IMDG) and the current versions of the United Nations Dangerous Goods Transport Guidelines, the Australian Code for the Transport of Dangerous Goods by Road and Rail and the International Maritime Dangerous Goods Code (Orica, 2024a).

Carriers are required to provide manifest documentation, to satisfy local customs regulations and the requirements of the International Maritime Dangerous Goods (IMDG) Code (IMO, 2024b), to the destination port. The manifest should contain a list of the cargo types and in the case of sodium cyanide and any other hazardous cargo the quantity, unique packaging numbers, stowage reference and emergency response procedures. Assessment of transportation agencies is via the Orica Carrier Assessment Questionnaire found in SUP-GLO-PRO-016, which enables a self-assessment and external assessment. A scoring system is included in this assessment process with minimum standards detailed (Orica, 2024a).

Mexico is an International Maritime Organization (IMO) Member State (1954) (IMO, Member States, 2024a) and a Safety of Life at Sea (SOLAS) Signatory Nation (1977) (ICSLAS, 2024), thereby requiring the port to adhere to the international regulations for the transportation and handling of dangerous goods as set out in the IMDG Code, 2021 (Parts 4, 5 and 7) (IMO, 2024b) and the SOLAS Convention 1974 (Chapter 7) (IMO, 2024b) & (IMO, 2024c).

Transport Practice 1.6: Track cyanide shipments to prevent losses during transport

To ensure safe carriage of dangerous goods and prevent pollution to the environment, the International Maritime Dangerous Goods, 2021 (IMDG) which is mandatory international code, sets out the detail requirements appliable to each individual substance and being member of the IMO, the port is expected to fulfill the set requirements (WSP Australia Pty Ltd, 2023).

As a member of the IMO, vessels are required to declare dangerous cargo before arriving/leaving the Port. Chain of custody documentation is used by shipping companies to prevent the loss of cargo during shipment. This documentation includes the vessel manifest, which identifies the location and content of each container on the vessel along with packing certificates, Multimodal Dangerous Goods Forms and Safety Data Sheets (SDS) (WSP Australia Pty Ltd, 2023).

As a SOLAS signatory nation, it is obligated to transmit Long-Range Identification and Tracking (LRIT) information. This system provides global identification and tracking of ships for security, safety and protection of marine environment (IMO, 2024c).

Transport Practice 2.1: Store cyanide in a manner that minimises the potential for accidental releases

The port of Lazaro Cardenas must adhere to the requirements of Official Mexican Standard NOM-010-SCT2/2009 -Compatibility and segregation provisions for the Storage and transportation of hazardous substances, materials and waste and NOM-023-SCT4-1995 Conditions for the management and Storage of dangerous goods in ports, terminals and sea units (U.S DOT, 1994) & (U.S DOT, 1994).

These standards state that ports, terminals, and offshore units must establish areas for management, storage and adequate segregation of dangerous goods in bulk or packed form from other cargo. There is a compatibility and segregation table for dangerous substances, materials, and waste. These storage areas must have the appropriate infrastructure, facilities, and signage on display in accordance with the inherent risks of the products. Available services applied to the Port of Lazaro Cardenas are (WSP Australia Pty Ltd, 2023):

- Controlled points of access/egress, perimeter fences, anchorages, maneuver areas and berthing.
- Facilities for cargo, storage areas and load handling equipment.
- System of electrical distribution networks, telecommunications, and computer networks.
- Vessels serving the port (tugs)
- Surveillance equipment and protection system (automated closed-circuit television (CCTV) systems).

Transport Practice 3.1: Prepare detailed emergency response plans for potential cyanide releases

The Mexican Government has national standards in place for the transportation, handling and storage of hazardous substances which applies to all ports, terminals, and offshore facilities where dangerous goods may be stored.

Mexican Standard NOM-005-SCT2/1994 Emergency Information for the Transportation of hazardous substances, materials and waste and NOM-023-SCT4-1995 Conditions for the management and Storage of dangerous goods in ports, terminals and sea units both contain provisions for ensuring preparedness in the event of an emergency situation (U.S DOT, 2000) & (U.S DOT, 1994). Essentially these standards require that the port administration form and maintain (via training) an emergency response team, ensure emergency response equipment is available and well maintained and have in place appropriate emergency incident notification and reporting mechanisms.

The Port of Lazaro Cardenas is certified under the IMO's International Convention on Oil Pollution Preparedness, Response and Cooperation 1990 (United Nations, 1995). States which are party to OPRC 90 protocol are required to establish a national system for responding to oil and hazardous/noxious substances (HNS) pollution incidents, including a designated national authority, a national operational contact point and a national contingency plan. This needs to be supported by a minimum level of response equipment, communications plans, regular training and exercises.

The Navy's Marine Environment Protection Division is the competent authority and administers the National Contingency Plan (NCP) for dealing with pollution by oil and other noxious substances in marine and freshwater environments (ITOPF, 2024).

The Navy, with the support of private contractors, manages the response to and monitoring of a Hazardous and Noxious Substances (HNS) incident and some equipment is readily available (such as PPE, respirators, pumps, power packs and air monitoring equipment).

Conclusion

Based on the evidence reviewed, this due diligence did not find significant issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work; rather it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

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B31 Port of Lihir Island, Lihir

1 March 2024

PS211281 031. RevA

Author: Megan Wood Approved: Rudi Seebach

Port due diligence executive summary

WSP Pty Ltd (WSP) conducted a due diligence of the Port of Lihir Island, Lihir during March 2024 on behalf of Orica Australia Pty Ltd (Orica).

The assessment was reviewed by Rudi Seebach who meets the International Cyanide Management Institute's (ICMI) requirements for a Transport Technical Specialist.

The following items, as detailed in the ICMI's Auditor Guidance for Use of Cyanide Transportation Verification Protocol (ICMI 2021), were addressed within the due diligence:

- Transport Practice 1.1 (Questions 1-4 and 6)
- Transport Practice 1.5 (Question 1)
- Transport Practice 1.6
- Transport Practice 2.1
- Transport Practice 3.1.

The ICMI's *Auditor Guidance for Use of Cyanide Transportation Verification Protocol* (ICMI 2021) was used to conduct the due diligence assessment. It was not possible during this due diligence to physically inspect operations, as such the review was based on information obtained from previous due diligence reviews, ICMI audit reports and publicly available online information. Based on the evidence reviewed, this due diligence did not find issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance of for future work; rather it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

Overview of the Port of Lihir Island, Lihir

The Lihir Island Port, designated by the port code PGLNV, is a moderately sized port situated in Papua New Guinea. Its location is approximately 900 kilometres (or 560 miles) to the northeast of Port Moresby.

The port frequently hosts two types of vessels: container ships, which make up about 50% of the traffic, and oil and chemical tankers, which constitute around 21%. The port can accommodate vessels with a maximum draught of 9.8 metres and a maximum deadweight of 36919 tons. The longest vessel recorded to have entered this port measured 200 metres in length (Seabay Logistics, 2024).

ICMC transport verification protocol assessment

Transport Practice 1.1: Select cyanide transport routes to minimise the potential for accidents and releases

Orica uses reputable shipping lines for the transportation of sodium cyanide manufactured by Orica or manufactured by third parties on behalf of Orica (Orica, 2024a).

Orica's Sodium Cyanide Transport Management protocol (Orica, 2024a) states that all routes used for sodium cyanide transport must undergo a risk assessment to determine their suitability. If multiple routes are available, each one requires an individual risk assessment. These assessments are conducted in accordance with the Route Risk Assessment (Orica, 2024c) and AS 4360:2004 Risk Management standards. Any risks identified as "extreme" must be prioritised and addressed through the development of an action plan to mitigate these risks as much as possible. The process for documenting the risks associated with selected routes is outlined in the Route Risk Assessment (Orica, 2024c).

Feedback regarding the routes is taken into consideration and forwarded to the Health, Safety & Environment (HS&E) Officer for the necessary updates to the route assessment. This information is also shared with the Orica representative in the relevant region (Orica, 2024a).

In situations where special safety measures or concerns are present, or where escorts are required, compliance with SUP-GLO-PRO-024 is mandatory. Additionally, Carrier Safety Programs should align with the requirements of SUP-GLO-PRO-005 (Orica, 2024a).

Transport Practice 1.5: Follow international standards for transportation of cyanide by sea

Orica's manufacturing facility and transfer stations are ICMC certified, therefore, sodium cyanide is packaged and transported in accordance with international regulatory standards and in line with all requirements of the International Maritime Dangerous Goods Code (IMDG) and the current versions of the United Nations Dangerous Goods Transport Guidelines, the Australian Code for the Transport of Dangerous Goods by Road and Rail and the International Maritime Dangerous Goods Code (Orica, 2024a).

Carriers are required to provide manifest documentation, to satisfy local customs regulations and the requirements of the International Maritime Dangerous Goods (IMDG) Code (IMO, 2024b), to the destination port. The manifest should contain a list of the cargo types and in the case of sodium cyanide and any other hazardous cargo the quantity, unique packaging numbers, stowage reference and emergency response procedures. Assessment of transportation agencies is via the Orica Carrier Assessment Questionnaire found in SUP-GLO-PRO-016, which enables a self-assessment and external assessment. A scoring system is included in this assessment process with minimum standards detailed (Orica, 2024a).

Papua New Guinea is an International Maritime Organization (IMO) Member State (1976) (IMO, Member States, 2024a) and a Safety of Life at Sea (SOLAS) Signatory Nation (1974) (ICSLAS, 2024) thereby requiring the Port of Lihir Island, to adhere to the international regulations for the transportation and handling of dangerous goods as set out in the International Maritime Dangerous Goods Code (Parts 4, 5 and 7) (IMO, 2024b) & (IMO, 2024c).

Transport Practice 1.6: Track cyanide shipments to prevent losses during transport

As an IMO member state and SOLAS signatory nation, it is a requirement of ships to transmit Long-Range Identification and Tracking (LRIT) information. This system provides global identification and tracking of ships for security, safety and protection of the marine environment (IMO, 2024c).

Transport Practice 2.1: Store cyanide in a manner that minimises the potential for accidental releases

In general, port and vessel security are managed through the International Ship and Port Facility Security Code (ISPS Code). The ISPS Code is a comprehensive set of measures to enhance security of ships and port facilities and provides a standardised, consistent framework for evaluating risk, enabling Governments to offset changes in threat with changes in vulnerability for ships and port facilities through determination of appropriate security levels and corresponding security measures. The ISPS Code takes the approach that ensuring the security of ships and port facilities is a risk management activity and that, to determine what security measures are appropriate, an assessment of the risks must be made in each case.

As a state member of IMO and The International Convention for the Prevention of Pollution from Ships (MARPOL) 73/78, it ensures the requirements for inspection and reporting of an incident involving harmful substance

The Marchant Shipping (Dangerous Goods) Regulation 2007 of New Papua Guinea requires any dangerous goods to be thoroughly inspected to avoid leakages or spillage before taking over. PNG ports work to the requirements of the International Maritime Organization's International Ship and port Facility Security Code (NMSA, 2024).

Transport Practice 3.1: Prepare detailed emergency response plans for potential cyanide releases

The NMSA is the national authority for PNG. PNG has been a member State of the IMO Council since 1976 (IMO, Member States, 2024a), it complies with the requirements of the IMDG Code (IMO, 2024b). As such, a National Marine Spill Contingency Plan (NATPLAN) and emergency management plan in place (National Maritime Safety Authority, 2024) should be in place.

As per 'article 17 of Marchant Shipping (Dangerous Goods) Regulation 2007' of Papua New Guinea the owner or agent of the ship is required to ensure that the dangerous goods cargo is accompanied with information providing emergency response and must include contingency plans and specific emergency response information for all type of dangerous goods. Further, the emergency response plan needs to be consistent with safety management system adopted (NMSA, 2024).

Conclusion

Based on the evidence reviewed, this due diligence did not find significant issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work; rather it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

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B32 Port of Lyttelton, New Zealand

29 February 2024

PS211281 032. RevA

Author: Joshua Foote Approved: Rudi Seebach

Port due diligence executive summary

WSP Pty Ltd (WSP) conducted a due diligence of the Port of Lyttelton during February 2024, on behalf of Orica Australia Pty Ltd (Orica).

The assessment was reviewed by Rudi Seebach, who meets the International Cyanide Management Institute's (ICMI) requirements for a Transport Technical Specialist.

The following items, as detailed in the ICMI's Auditor Guidance for Use of Cyanide Transportation Verification Protocol, June 2021 (ICMI 2022), were addressed within the due diligence:

- Transport Practice 1.1 (Questions 1-4 and 6)
- Transport Practice 1.5 (Question 1)
- Transport Practice 1.6
- Transport Practice 2.1
- Transport Practice 3.1.

The ICMI's *Auditor Guidance for Use of Cyanide Transportation Verification Protocol, June 2021* (ICMI 2022) was used to conduct the due diligence assessment. It was not possible during this due diligence to physically inspect operations, as such the review was based on information obtained from previous due diligence reviews, ICMI audit reports and publicly available online information. Based on the evidence reviewed, this due diligence did not find issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work. Instead, it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

Overview of the Port of Lyttelton, New Zealand

The Port of Lyttelton is located on the southern island of New Zealand, outside the township of Lyttelton and approximately five nautical miles from open sea. The entrance to the inner harbour is approximately 150 m wide and provides a sheltered, deep-water port for container, bulk, and conventional vessels (lpc, 2024).

Cargo includes fertiliser, gypsum, cement, imported vehicles, aviation fuel, diesel, and other petroleum products. The port is also New Zealand largest coal facility. In total, over 500,000 twenty-foot equivalent units (TEUs) of container cargo were loaded and unloaded in FY22 (lpc, 2024).

ICMC transport verification protocol assessment

Transport Practice 1.1: Select cyanide transport routes to minimise the potential for accidents and releases

Orica uses reputable shipping lines for the transportation of sodium cyanide manufactured by Orica or manufactured by third parties on behalf of Orica (Orica, 2024a).

Orica’s Sodium Cyanide Transport Management protocol (Orica, 2024a) states that all routes used for sodium cyanide transport must undergo a risk assessment to determine their suitability. If multiple routes are available, each one requires an individual risk assessment. These assessments are conducted in accordance with the Route Risk Assessment (Orica, 2024c) and AS 4360:2004 Risk Management standards. Any risks identified as “extreme” must be prioritised and addressed through the development of an action plan to mitigate these risks as much as possible. The process for documenting the risks associated with selected routes is outlined in the Route Risk Assessment (Orica, 2024c).

Feedback regarding the routes is taken into consideration and forwarded to the Health, Safety & Environment (HS&E) Officer for the necessary updates to the route assessment. This information is also shared with the Orica representative in the relevant region (Orica, 2024a).

In situations where special safety measures or concerns are present, or where escorts are required, compliance with SUP-GLO-PRO-024 is mandatory. Additionally, Carrier Safety Programs should align with the requirements of SUP-GLO-PRO-005 (Orica, 2024a).

The Port of Lyttelton was selected based on its it being the largest port in the South Island of New Zealand, with modern infrastructure close to end users.

Transport Practice 1.5: Follow international standards for transportation of cyanide by sea

Orica’s manufacturing facility and transfer stations are ICMC certified, therefore, sodium cyanide is packaged and transported in accordance with international regulatory standards and in line with all requirements of the International Maritime Dangerous Goods Code (IMDG) and the current versions of the United Nations Dangerous Goods Transport Guidelines, the Australian Code for the Transport of Dangerous Goods by Road and Rail and the International Maritime Dangerous Goods Code (Orica, 2024a).

Carriers are required to provide manifest documentation, to satisfy local customs regulations and the requirements of the International Maritime Dangerous Goods (IMDG) Code (IMO, 2024b), to the destination port. The manifest should contain a list of the cargo types and in the case of sodium cyanide and any other hazardous cargo the quantity, unique packaging numbers, stowage reference and emergency response procedures. Assessment of transportation agencies is via the Orica Carrier Assessment Questionnaire found in SUP-GLO-PRO-016, which enables a self-assessment and external assessment. A scoring system is included in this assessment process with minimum standards detailed (Orica, 2024a).

New Zealand is an International Maritime Organization (IMO) Member State (1960) (IMO, Member States, 2024a) and a Safety of Life at Sea (SOLAS) Signatory Nation (1990) (ICSLAS, 2024), thereby requiring the Port of Chalmers to adhere to the international regulations for the transportation and handling of dangerous goods as set out in the IMDG Code (Parts 4, 5 and 7) (IMO 2018) and the SOLAS Convention 1974 (Chapter 7) (IMO, 2024b) & (IMO, 2024c).

Transport Practice 1.6: Track cyanide shipments to prevent losses during transport

As a member of the IMO, vessels are required to declare dangerous cargo before arriving/leaving the Port**.** Chain of custody documentation is used by shipping companies to prevent the loss of cargo during shipment**.** This documentation includes the vessel manifest, which identifies the location and content of each container on the vessel along with packing certificates, Multimodal Dangerous Goods Forms and Safety Data Sheets (SDS) (WSP Australia Pty Ltd, 2023)**.**

Under Part 24A of the New Zealand maritime rules, the master of a ship carrying dangerous goods must give advance notice to the Harbourmaster of the ship's arrival at a port at least 48 hours beforehand if on an international voyage and as soon as practicable for a ship on a coastal voyage, but it must be before entering the harbour (Maritime New Zealand, 2021).

Transport Practice 2.1: Store cyanide in a manner that minimises the potential for accidental releases

Hazardous substances are managed in accordance with local regulations, including the Maritime Transport Act 1994, The Hazardous Substances and New Organisms Act 1996 (HSNO) (Government of New Zealand, 1996) and the Health and Safety at Work (Hazardous Substances) Regulations 2017 (Government of New Zealand, 2017).

The port has a statutory obligation to comply with, amongst others, the security requirements of the port's New Zealand Customs (NZC) Procedure Statement, the *Customs and Excise Act 1996* (New Zealand Customs Service, 2018) and the *Maritime Security Act 2004* (Ministry of Transport , 2021). The primary provisions being laid out in the International Ship and Port Facility Security (ISPS) Code, particularly *Part 2 Ship and port Facility Security, Subsection 40 port Facility Security Plans and Part 3 Preventative Security Measures, Subsection 46 Restrictions with Respect to port Security Areas* (IMO, 2024b).

All sodium cyanide remains sealed within containers preventing contact with water and other incompatible materials.

Transport Practice 3.1: Prepare detailed emergency response plans for potential cyanide releases

The port of Lyttelton is certified under the IMO's International Convention on Oil Pollution Preparedness, Response and Cooperation 1990 (United Nations, 1995). States which are party to OPRC 90 protocol are required to establish a national system for responding to oil and hazardous/noxious substances (HNS) pollution incidents, including a designated national authority, a national operational contact point and a national contingency plan. This needs to be supported by a minimum level of response equipment, communications plans, regular training and exercises.

As well as the Port of Lyttelton having internal capabilities for spill response, Maritime New Zealand administers the Maritime Transport Act 1994 and provides support for major incidents and emergencies, including spills (WSP Australia Pty Ltd, 2023).

Conclusion

Based on the evidence reviewed, this due diligence did not find significant issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work; rather it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

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B33 Port of Manzanillo, Mexico

6 March 2024

PS211281 033. RevA

Author: Megan Wood Approved: Rudi Seebach

Port due diligence executive summary

WSP Pty Ltd (WSP) conducted a due diligence of the Port of Manzanillo, Mexico during March 2024 on behalf of Orica Australia Pty Ltd (Orica).

The assessment was reviewed by Rudi Seebach who meets the International Cyanide Management Institute's (ICMI) requirements for a Transport Technical Specialist.

The following items, as detailed in the ICMI's Auditor Guidance for Use of Cyanide Transportation Verification Protocol (ICMI 2021), were addressed within the due diligence:

- Transport Practice 1.1 (Questions 1-4 and 6)
- Transport Practice 1.5 (Question 1)
- Transport Practice 1.6
- Transport Practice 2.1
- Transport Practice 3.1.

The ICMI's *Auditor Guidance for Use of Cyanide Transportation Verification Protocol* (ICMI 2021) was used to conduct the due diligence assessment. It was not possible during this due diligence to physically inspect operations, as such the review was based on information obtained from previous due diligence reviews, ICMI audit reports and publicly available online information. Based on the evidence reviewed, this due diligence did not find issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work. Instead, it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

Overview of the Port of Manzanillo, Mexico

Manzanillo, city and port, are on the Pacific Ocean between Manzanillo Bay and Cuyutlán Lagoon (Britannica, 2024). In 2021 the Manzanillo port transported 4.52 million twenty-foot equivalent units (TEU) due to an increase in mining bulk handling, allowing the port to lead the logistic activity in the Pacific and hold the highest record in standard container movement (Pamela Benítez , 2024). The port includes four terminals, 46-foot (14-metre) harbor depths and 17 berths (CBRE, 2024). The chief exports include copra, corn (maize), bananas, lemons, fish, minerals, lumber, wine, and canned goods (Britannica, 2024).

The port of Manzanillo boasts two key transportation routes for moving goods:

- Road Transport: By road, it is connected to an extensive network of over 285 kilometres of roadway within the Colima region.
- Rail Transport: The Ferromex service plays a crucial role in transporting goods. It serves not only the local area but also extends its reach to countries such as the United States of America, Canada, Guatemala, Colombia, and Chile.

These transport links contribute significantly to Manzanillo's economic vitality and facilitate the movement of goods across borders and regions.

Stevedoring is run by Hutchison Ports Terminal Internacional de Manzanillo (TIMSA).

ICMC transport verification protocol assessment

Transport Practice 1.1: Select cyanide transport routes to minimise the potential for accidents and releases

Orica uses reputable shipping lines for the transportation of sodium cyanide manufactured by Orica or manufactured by third parties on behalf of Orica (Orica, 2024a).

Orica's Sodium Cyanide Transport Management protocol (Orica, 2024a) states that all routes used for sodium cyanide transport must undergo a risk assessment to determine their suitability. If multiple routes are available, each one requires an individual risk assessment. These assessments are conducted in accordance with the Route Risk Assessment (Orica, 2024c) and AS 4360:2004 Risk Management standards. Any risks identified as "extreme" must be prioritised and addressed through the development of an action plan to mitigate these risks as much as possible. The process for documenting the risks associated with selected routes is outlined in the Route Risk Assessment (Orica, 2024c).

Feedback regarding the routes is taken into consideration and forwarded to the Health, Safety & Environment (HS&E) Officer for the necessary updates to the route assessment. This information is also shared with the Orica representative in the relevant region (Orica, 2024a).

In situations where special safety measures or concerns are present, or where escorts are required, compliance with SUP-GLO-PRO-024 is mandatory. Additionally, Carrier Safety Programs should align with the requirements of SUP-GLO-PRO-005 (Orica, 2024a).

Transport Practice 1.5: Follow international standards for transportation of cyanide by sea

Orica's manufacturing facility and transfer stations are ICMC certified, therefore, sodium cyanide is packaged and transported in accordance with international regulatory standards and in line with all requirements of the International Maritime Dangerous Goods Code (IMDG) and the current versions of the United Nations Dangerous Goods Transport Guidelines, the Australian Code for the Transport of Dangerous Goods by Road and Rail and the International Maritime Dangerous Goods Code (Orica, 2024a).

Carriers are required to provide manifest documentation, to satisfy local customs regulations and the requirements of the International Maritime Dangerous Goods (IMDG) Code (IMO, 2024b), to the destination port. The manifest should contain a list of the cargo types and in the case of sodium cyanide and any other hazardous cargo the quantity, unique packaging numbers, stowage reference and emergency response procedures. Assessment of transportation agencies is via the Orica Carrier Assessment Questionnaire found in SUP-GLO-PRO-016, which enables a self-assessment and external assessment. A scoring system is included in this assessment process with minimum standards detailed (Orica, 2024a).

Mexico is an International Maritime Organization (IMO) Member State (1954) (IMO, Member States, 2024a) and a Safety of Life at Sea (SOLAS) Signatory Nation (1974) (IMO, 2024c) thereby requiring the Port of Manzanillo to adhere to the international regulations for the transportation and handling of dangerous goods as set out in the International Maritime Dangerous Goods Code (Parts 4, 5 and 7) (IMO, 2024b) & (IMO, 2024c)

Transport Practice 1.6: Track cyanide shipments to prevent losses during transport

To ensure safe carriage of dangerous goods and prevent pollution to the environment, the International Maritime Dangerous Goods, 2021 (IMDG) which is mandatory international code, sets out the detail requirements appliable to each individual substance and being member of the IMO, the port is expected to fulfill the set requirements.

As a member of the IMO, vessels are required to declare dangerous cargo before arriving/leaving the Port. Chain of custody documentation is used by shipping companies to prevent the loss of cargo during shipment. This documentation includes the vessel manifest, which identifies the location and content of each container on the vessel along with packing certificates, Multimodal Dangerous Goods Forms and Safety Data Sheets (SDS).

As a SOLAS signatory nation, it is obligated to transmit Long-Range Identification and Tracking (LRIT) information. This system provides global identification and tracking of ships for security, safety, and protection of marine environment (IMO, 2024c). According to Manzanillo's National Port System, due to the growing port activity, a Secure Smart Port (PIS) program was implemented to optimise and simplify the logistics processes of each player in the commercial chain (Pamela Benítez , 2024).

Transport Practice 2.1: Store cyanide in a manner that minimises the potential for accidental releases

The port of Manzanillo must adhere to the requirements of Official Mexican Standard NOM-010-SCT2/2009 -Compatibility and segregation provisions for the Storage and transportation of hazardous substances, materials, and waste and NOM-023-SCT4-1995 Conditions for the management and Storage of dangerous goods in ports, terminals and sea units (U.S DOT, 1994) & (U.S DOT, 1994).

These standards state that ports, terminals, and offshore units must establish areas for management, storage, and adequate segregation of dangerous goods in bulk or packed form, from other cargo. There is a compatibility and segregation table for dangerous substances, materials, and waste. These storage areas must have the appropriate infrastructure, facilities, and signage on display in accordance with the inherent risks of the products.

The port or terminal operator must ensure that the areas where goods are handled and stored always be monitored and that personnel involved in such operations have received adequate training. The operator shall keep a permanent record of any dangerous goods encountered in the port area and will ensure that in the areas where the products are handled and stored, personnel have accessible information on emergency procedures.

All sodium cyanide remains sealed within containers preventing contact with water and other incompatible materials. The standards also ensure that in such area's signage is displayed to show smoking is prohibited, sources of ignition are avoided, and proper precautions are taken with regards to personal protective equipment for the handling of dangerous goods.

Transport Practice 3.1: Prepare detailed emergency response plans for potential cyanide releases

The Mexican Government has national standards in place for the transportation, handling and storage of hazardous substances which applies to all ports, terminals, and offshore facilities where dangerous goods may be stored.

Mexican Standard NOM-005-SCT2/1994 Emergency Information for the Transportation of hazardous substances, materials, and waste and NOM-023-SCT4-1995 Conditions for the management and Storage of dangerous goods in ports, terminals and sea units both contain provisions for ensuring preparedness in the event of an emergency situation (U.S DOT, 2000) & (U.S DOT, 1994). Essentially these standards require that the port administration form and maintain (via training) an emergency response team, ensure emergency response equipment is available and well maintained and have in place appropriate emergency incident notification and reporting mechanisms.

Mexico is certified under the IMO's International Convention on Oil Pollution Preparedness, Response and Cooperation 1990 (United Nations, 1995). States which are party to OPRC 90 protocol are required to establish a national system for responding to oil and hazardous/noxious substances (HNS) pollution incidents, including a designated national authority, a national operational contact point and a national contingency plan. This needs to be supported by a minimum level of response equipment, communications plans, regular training, and exercises.

The Navy's Marine Environment Protection Division is the competent authority and administers the National Contingency Plan (NCP) for dealing with pollution by oil and other noxious substances in marine and freshwater environments (ITOPF, 2024).

The Navy, with the support of private contractors, manages the response to and monitoring of a Hazardous and Noxious Substances (HNS) incident and some equipment is readily available (such as personal protective equipment (PPE), respirators, pumps, power packs and air monitoring equipment).

Conclusion

Based on the evidence reviewed, this due diligence did not find significant issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work; rather it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

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B34 Port of Melbourne, Australia

4 March 2024

PS211281 034. RevA

Author: Megan Wood Approved: Rudi Seebach

Por Due Diligence Executive Summary

WSP Pty Ltd (WSP) conducted a due diligence of the Port of Melbourne, Australia during March 2024 on behalf of Orica Australia Pty Ltd (Orica).

The assessment was reviewed by Rudi Seebach who meets the International Cyanide Management Institute's (ICMI) requirements for a Transport Technical Specialist.

The following items, as detailed in the ICMI's Auditor Guidance for Use of the Cyanide Transportation Verification Protocol (ICMI 2021), were addressed within the due diligence:

- Transport Practice 1.1 (Questions 1-4 and 6)
- Transport Practice 1.5 (Question 1)
- Transport Practice 1.6
- Transport Practice 2.1
- Transport Practice 3.1.

The ICMI's *Auditor Guidance for Use of Cyanide Transportation Verification Protocol* (ICMI 2021) was used to conduct the due diligence assessment. It was not possible during this due diligence to physically inspect operations, as such the review was based on information obtained from previous due diligence reviews, ICMI audit reports and publicly available online information. Based on the evidence reviewed, this due diligence did not find issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work. Instead, it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

Overview of the Port of Melbourne, Australia

The port of Melbourne is the leading international container terminal in Australasia. It handles over 3.23 million Twenty-foot equivalent units (TEUs) annually (Port of Melbourne, 2024). Overall, the Port of Melbourne owns and manages around 500 hectares of port land. It is the largest container in Australasia and though its multipurpose terminals handle a variety of non-containerised pack types. These include farm equipment and machinery, and breakbulk commodities like timber, paper, iron and steel (port of Melbourne Operations Pty Ltd (Port of Melbourne, 2024).

The port of Melbourne is operated by Ports Victoria, formally (Victorian ports Corporation Melbourne (VPCM)). As a government owned entity, Ports Victorias responsibilities include the management of commercial shipping in port Phillip, waterside emergency and marine pollution response, and the management of Station Pier as Victoria's premier cruise shipping facility (Port of Melbourne, 2024).

Port operations include (WSP Australia Pty Ltd, 2023):

- The approach of the vessel to the ports will take into any account any channels, special navigation points and as mentioned above the currents, tides and weather.
- Entry into port is controlled by the port's Pilot who understands the port protocols and any unique issues regarding the approach and docking of a vessel at the port. The Ship's Captain works in conjunction with the Pilot as he understands his vessel and can implement and assist with the Pilot's instructions.
- Once a vessel is secure alongside the wharf the shipping activities changeover to port activities. The vessels manifest of what containers are required to be unloaded from the vessel, including the manifest for containers for loading are handed over. This manifest will identify hazardous cargos and their UN number and classification and segregation requirements.
- Port protocols exist for docking of vessels (e.g.,, use of Pilots, use of tugboats, management of different weather conditions, tides, currents and safety and general port operations). This sees to the safe docking and turnaround of the vessels in and out of the port.
- Stevedoring companies DP World, Patrick and Svitzer manage the onshore (wharf) operations at the various dedicated cargo terminals. Stevedoring operations include (WSP Australia Pty Ltd, 2023):
- Handling of the containers whether full or empty on and off the vessels; container storage areas for general cargo, port security, control systems for companies and their vehicles collecting and or delivering containers.
- Software programs that control container placement and movement; these software packages identify each individual container placement area in designated stacks. The input information for the placement of containers comes from the vessel's manifest.

ICMC transport verification protocol assessment

Transport Practice 1.1: Select cyanide transport routes to minimise the potential for accidents and releases

Orica uses reputable shipping lines for the transportation of sodium cyanide manufactured by Orica or manufactured by third parties on behalf of Orica (Orica, 2024a).

Orica's Sodium Cyanide Transport Management protocol (Orica, 2024a) states that all routes used for sodium cyanide transport must undergo a risk assessment to determine their suitability. If multiple routes are available, each one requires an individual risk assessment. These assessments are conducted in accordance with the Route Risk Assessment (Orica, 2024c) and AS 4360:2004 Risk Management standards. Any risks identified as "extreme" must be prioritised and addressed through the development of an action plan to mitigate these risks as much as possible. The process for documenting the risks associated with selected routes is outlined in the Route Risk Assessment (Orica, 2024c).

Feedback regarding the routes is taken into consideration and forwarded to the Health, Safety & Environment (HS&E) Officer for the necessary updates to the route assessment. This information is also shared with the Orica representative in the relevant region (Orica, 2024a).

In situations where special safety measures or concerns are present, or where escorts are required, compliance with SUP-GLO-PRO-024 is mandatory. Additionally, Carrier Safety Programs should align with the requirements of SUP-GLO-PRO-005 (Orica, 2024a).

The port of Melbourne's strategic location offers entry to international markets through direct connectivity to Australia's major road and rail networks and international shipping lines.

Transport Practice 1.5: Follow international standards for transportation of cyanide by sea

Orica's manufacturing facility and transfer stations are ICMC certified, therefore, sodium cyanide is packaged and transported in accordance with international regulatory standards and in line with all requirements of the International Maritime Dangerous Goods Code (IMDG) and the current versions of the United Nations Dangerous Goods Transport Guidelines, the Australian Code for the Transport of Dangerous Goods by Road and Rail and the International Maritime Dangerous Goods Code (Orica, 2024a).

Carriers are required to provide manifest documentation, to satisfy local customs regulations and the requirements of the International Maritime Dangerous Goods (IMDG) Code (IMO, 2024b), to the destination port. The manifest should contain a list of the cargo types and in the case of sodium cyanide and any other hazardous cargo the quantity, unique packaging numbers, stowage reference and emergency response procedures. Assessment of transportation agencies is via the Orica Carrier Assessment Questionnaire found in SUP-GLO-PRO-016, which enables a self-assessment and external assessment. A scoring system is included in this assessment process with minimum standards detailed (Orica, 2024a).

Australia is an International Maritime Organization (IMO) Member State (1952) (IMO, Member States, 2024a) and a Safety of Life at Sea (SOLAS) Signatory Nation (1983) (IMO, 2024c) thereby requiring the Port of Brisbane to adhere to the international regulations for the transportation and handling of dangerous goods as set out in the IMDG Code (Parts 4, 5 and 7) (IMO 2018) and the SOLAS Convention 1974 (Chapter 7) (IMO, 2024b) & (IMO, 2024c).

Transport Practice 1.6: Track cyanide shipments to prevent losses during transport

Communication operations at Melbourne Vessel Traffic Services (VTS) in the port Operations Control Centre coordinate marine operations. The service operates around the clock to provide safe and efficient marine and navigational services across 101, 242 hectares of declared port waters (Port of Melbourne, 2024).

Chain of custody documentation is also used by shipping companies to prevent the loss of cargo during shipment. This documentation includes the vessel manifest which identifies the location and content of each container on the vessel along with packing certificates, Multimodal Dangerous Goods Forms and Safety Data Sheets.

Transport Practice 2.1: Store cyanide in a manner that minimises the potential for accidental releases

In response to the risk of terrorism, the Commonwealth Government of Australia has interpreted the International Ship and port Facility and Security (ISPS) Code, through its introduction of the Maritime Transport and Offshore Facilities Security Act (MTOFSA) and Regulation 2003. The port of Melbourne is a security regulated port as set out in the MTOFSA (WSP Australia Pty Ltd, 2023).

The port of Melbourne is responsible for all security related issues for the terminals which it manages, Port Facility Security Officers are responsible for all other terminals (Port of Melbourne, 2024).

Worksafe Victoria's (2022) (Victorian Government, 2023) *Code of Practice for the Storage and Handling of Dangerous Goods* provides guidance for spill containment requirements for dangerous goods storage facilities/areas. Occupiers storing and handling dangerous goods must ensure that in each area where dangerous goods are stored or handled, provision is made for spill containment that will eliminate the risk from any spill or leak of solid or liquid dangerous goods and must also be able to contain within the premises, the dangerous goods that have been spilled or leaked and any solid or liquid effluent arising from an incident.

Unless kept in a restricted area, quantities of dangerous goods exceeding 500 kg are delivered to, and removed from, the designated berths or storage areas within 12 hrs of being loaded/unloaded from a vessel. Sodium cyanide transited through the Port of Melbourne is temporary and remains on site for less than 12 hours, as required (Ports Victoria, 2022). This is a management measure to minimise potential for accidental releases during storage. All sodium cyanide transited through the Port of Melbourne remains contained within its sealed containers at all times preventing contact with water and other incompatible materials.

Transport Practice 3.1: Prepare detailed emergency response plans for potential cyanide releases

The port of Melbourne is certified under the IMO's International Convention on Oil Pollution Preparedness, Response and Cooperation 1990 (United Nations, 1995). States which are party to OPRC 90 protocol are required to establish a national system for responding to oil and hazardous/noxious substances pollution incidents, including a designated national authority, a national operational contact point and a national contingency plan. This needs to be supported by a minimum level of response equipment, communications plans, regular training and exercises (ITOPF, 2024).

Australian Maritime Safety Authority (AMSA), a federal government self-funded maritime safety agency established in 1990, is responsible for providing a national response capability for marine pollution. AMSA administers the *National Plan to Combat Pollution of the Sea by Oil and other Noxious and Hazardous Substances*, a cooperative arrangement between the Federal, State and Territory Governments and the shipping, oil, exploration and chemical industries, emergency services and fire brigades (Australian Government, 2021).

Under National Plan arrangements, a wide strategic range of response equipment is held at nine regional stockpiles. Equipment provided by AMSA is generally targeted at larger spills, though this is complemented by equipment held by port authorities, State Governments and individual oil and chemical companies.

The port of Melbourne has a plan in place to manage emergencies which is the Port of Melbourne Safety and Environment Management Plan (SEMP) (Port of Melbourne, 2023). The SEMP provides an integrated framework for emergency management within the port's areas of responsibility and seeks to support an "all agencies" and "all hazards" approach for the prevention, preparedness, response and recovery of port related emergencies. The SEMP is also required to be integrated with Ports of Victoria Emergency Management Plan.

Conclusion

Based on the evidence reviewed, this due diligence did not find significant issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work; rather it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

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B35 Port of Mersin, Turkey

5 March 2024

PS211281 035. RevA

Author: Megan Wood Approved: Rudi Seebach

Port due diligence executive summary

WSP Pty Ltd (WSP) conducted a due diligence of the Port of Mersin during March 2024, on behalf of Orica Australia Pty Ltd (Orica).

The assessment was reviewed by Rudi Seebach, who meets the International Cyanide Management Institute's (ICMI) requirements for a Transport Technical Specialist.

The following items, as detailed in the ICMI's Auditor Guidance for Use of Cyanide Transportation Verification Protocol, June 2021 (ICMI 2021), were addressed within the due diligence:

- Transport Practice 1.1 (Questions 1-4 and 6)
- Transport Practice 1.5 (Question 1)
- Transport Practice 1.6
- Transport Practice 2.1
- Transport Practice 3.1.

The ICMI's *Auditor Guidance for Use of Cyanide Transportation Verification Protocol, June 2021* (ICMI 2021) was used to conduct the due diligence assessment. It was not possible during this due diligence to physically inspect operations, as such the review was based on information obtained from previous due diligence reviews, ICMI audit reports and publicly available online information. Based on the evidence reviewed, this due diligence did not find issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work. Instead, it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

Overview of the Port of Mersin, Turkey

The Port of Mersin is one of the main container ports servicing Turkey. The operating right of Mersin Port, which had been operated by Turkish Republic State Railways (TCDD) until the date of 11 May,2007, was assigned for 36 years to Mersin International Port Management INC. (MIP) (MIP, 2024). Mersin port is Turkey's largest container port, and the port facility is connected to Turkey's rail and highway networks providing a key node for import and export for the country.

The port area covers 124 hectares and has the following key features (MIP, 2024):

- The port has 21 total berths with depth of 15.8 m
- 2,600,000 twenty-foot equivalent units (TEU) per year of container handling capacity
- 1,000,000 tonnes (t) per year of general cargo handling capacity
- 12 gantry cranes and 6 mobile cranes to support operations
- The port provides 24/7 pilotage, towage, and mooring services.

The Port of Mersin has a continuous security and operational monitoring system, the overall running of which is controlled via a centralised Terminal Operating System (TOS). There are closed-circuit television (CCTV) cameras at numerous points within the port, and entry/exiting is controlled through biometric identification cards. Entry and exit are limited to authorised personnel only.

ICMC transport verification protocol assessment

Transport Practice 1.1: Select cyanide transport routes to minimise the potential for accidents and releases

Orica uses reputable shipping lines for the transportation of sodium cyanide manufactured by Orica or manufactured by third parties on behalf of Orica (Orica, 2024a).

Orica's Sodium Cyanide Transport Management protocol (Orica, 2024a) states that all routes used for sodium cyanide transport must undergo a risk assessment to determine their suitability. If multiple routes are available, each one requires an individual risk assessment. These assessments are conducted in accordance with the Route Risk Assessment (Orica, 2024c) and AS 4360:2004 Risk Management standards. Any risks identified as "extreme" must be prioritised and addressed through the development of an action plan to mitigate these risks as much as possible. The process for documenting the risks associated with selected routes is outlined in the Route Risk Assessment (Orica, 2024c).

Feedback regarding the routes is taken into consideration and forwarded to the Health, Safety & Environment (HS&E) Officer for the necessary updates to the route assessment. This information is also shared with the Orica representative in the relevant region (Orica, 2024a).

In situations where special safety measures or concerns are present, or where escorts are required, compliance with SUP-GLO-PRO-024 is mandatory. Additionally, Carrier Safety Programs should align with the requirements of SUP-GLO-PRO-005 (Orica, 2024a).

The Port of Mersin was chosen as it is one of the country's main container ports, with access to international standard equipment and operational standards.

Transport Practice 1.5: Follow international standards for transportation of cyanide by sea

Orica's manufacturing facility and transfer stations are ICMC certified, therefore, sodium cyanide is packaged and transported in accordance with international regulatory standards and in line with all requirements of the International Maritime Dangerous Goods Code (IMDG) and the current versions of the United Nations Dangerous Goods Transport Guidelines, the Australian Code for the Transport of Dangerous Goods by Road and Rail and the International Maritime Dangerous Goods Code (Orica, 2024a).

Carriers are required to provide manifest documentation, to satisfy local customs regulations and the requirements of the International Maritime Dangerous Goods (IMDG) Code (IMO, 2024b), to the destination port. The manifest should contain a list of the cargo types and in the case of sodium cyanide and any other hazardous cargo the quantity, unique packaging numbers, stowage reference and emergency response procedures. Assessment of transportation agencies is via the Orica Carrier Assessment Questionnaire found in SUP-GLO-PRO-016, which enables a self-assessment and external assessment. A scoring system is included in this assessment process with minimum standards detailed (Orica, 2024a).

Mersin, Turkey is an International Maritime Organization (IMO) Member State (1958) (IMO, 2019) and a Safety of Life at Sea (SOLAS) Signatory Nation (1974) (ICSLAS, 2024) thereby requiring the Port of Mersin to adhere to the international regulations for the transportation and handling of dangerous goods as set out in the International Maritime Dangerous Goods Code (Parts 4, 5 and 7) (IMO, 2024b) & (IMO, 2024c).

Transport Practice 1.6: Track cyanide shipments to prevent losses during transport

To ensure safe carriage of dangerous goods and prevent pollution to the environment, the IMDG code, which is mandatory international code, details requirements applicable to individual substances, including sodium cyanide, and being a signatory member of the IMO, the Port of Mersin is required to adhere to these international operating requirements. Vessels are required to declare dangerous cargo before arriving/leaving the port. Chain of custody documentation is used by shipping companies to prevent the loss of cargo during shipment. This documentation includes the vessel manifest which identifies the location and content of each container on the vessel along with packing certificates, Multimodal Dangerous Goods Forms and Safety Data Sheets (SDS) (WSP Australia Pty Ltd, 2023).

The port utilises their own tracking system to monitor the progress of all containers from the loading port through the various transhipment ports until the final destination. The vessel's Captain carries a Dangerous Goods manifest (including stowage plan) and Packing Certificates for each of the hazardous cargo transport units which is updated at each port visited (WSP Australia Pty Ltd, 2023).

Transport Practice 2.1: Store cyanide in a manner that minimises the potential for accidental releases

The Port of Mersin has a continuous security and operational monitoring system, the overall running of which is controlled via the centralised TOS. There are CCTV cameras at numerous points within the port, and entry/exiting is controlled through biometric identification cards. The port has introduced container seal control application system which ensure full container seal control is made, and is International Ship and Port Facility Security (ISPS) code certified (MIP, 2024).

Transport Practice 3.1: Prepare detailed emergency response plans for potential cyanide releases

Turkey is a Member State of the IMO Council (IMO, Member States, 2024a) and complies with the requirements of the IMDG Code (IMO, 2024b). As per the 2022 Sustainability Report, an Emergency Intervention to Sea Pollution Plan has been endorsed by Ministry of Environment and Urbanisation (MIP, 2022).

Conclusion

Based on the evidence reviewed, this due diligence did not find significant issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work; rather it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

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B36 Port of Monrovia, Liberia

5 March 2024

PS211281 036. RevA

Author: Megan Wood Approved: Rudi Seebach

Port due diligence executive summary

WSP Pty Ltd (WSP) conducted a due diligence of Monrovia, Liberia during March 2024 on behalf of Orica Australia Pty Ltd (Orica).

The assessment was reviewed by Rudi Seebach who meets the International Cyanide Management Institute's (ICMI) requirements for a Transport Technical Specialist.

The following items, as detailed in the ICMI's Auditor Guidance for Use of Cyanide Transportation Verification Protocol (ICMI 2021), were addressed within the due diligence:

- Transport Practice 1.1 (Questions 1-4 and 6)
- Transport Practice 1.5 (Question 1)
- Transport Practice 1.6
- Transport Practice 2.1
- Transport Practice 3.1.

The ICMI's *Auditor Guidance for Use of Cyanide Transportation Verification Protocol* (ICMI 2021) was used to conduct the due diligence assessment. It was not possible during this due diligence to physically inspect operations, as such the review was based on information obtained from previous due diligence reviews, ICMI audit reports and publicly available online information. Based on the evidence reviewed, this due diligence did not find issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work. Instead, it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

Overview of the Port of Monrovia, Liberia

The port of Monrovia (also referred to as the Freeport of Monrovia) is managed by the National Port Authority and APM Terminal for the main quay. The main storage area in the Terminal is the yard for the containers which is around 10 hectares (Logistics Cluster, 2024g).

APM Terminals Liberia operates one dedicated berth for container operations, in addition to its one multi-use berth. Six reach stackers, two empty handlers and four heavy duty forklifts for containers loading or collection of containers (Logistics Cluster, 2024g). There is a three-lane, automated in gate, and a separate three-lane out gate.

The port of Monrovia is an International Ship and Port Security (ISPS) certified Security Level One port. Security services are subcontracted by APMT and there is ongoing project to install closed-circuit television (CCCTV) in the port to monitor all movements. APM Terminal ensures adequate lighting during the night which helps in increasing the security standards in the Terminal. APM Terminal uses its own generators for electricity and is not linked to the national grid (Logistics Cluster, 2024g)

Under current rules provided by APM Terminals transhipment or import International Maritime Dangerous Goods (IMDG) Class 6.1 is authorised under restrictions including request prior to loading at port of departure and containers are to be transported outside of the port upon discharge (WSP Australia Pty Ltd, 2023).

ICMC transport verification protocol assessment

Transport Practice 1.1: Select cyanide transport routes to minimise the potential for accidents and releases

Orica uses reputable shipping lines for the transportation of sodium cyanide manufactured by Orica or manufactured by third parties on behalf of Orica (Orica, 2024a).

Orica's Sodium Cyanide Transport Management protocol (Orica, 2024a) states that all routes used for sodium cyanide transport must undergo a risk assessment to determine their suitability. If multiple routes are available, each one requires an individual risk assessment. These assessments are conducted in accordance with the Route Risk Assessment (Orica, 2024c) and AS 4360:2004 Risk Management standards. Any risks identified as "extreme" must be prioritised and addressed through the development of an action plan to mitigate these risks as much as possible. The process for documenting the risks associated with selected routes is outlined in the Route Risk Assessment (Orica, 2024c).

Feedback regarding the routes is taken into consideration and forwarded to the Health, Safety & Environment (HS&E) Officer for the necessary updates to the route assessment. This information is also shared with the Orica representative in the relevant region (Orica, 2024a).

In situations where special safety measures or concerns are present, or where escorts are required, compliance with SUP-GLO-PRO-024 is mandatory. Additionally, Carrier Safety Programs should align with the requirements of SUP-GLO-PRO-005 (Orica, 2024a).

The port is selected on the basis that it is the closest port to the customer and that it meets all reasonable industry standards for safety, security and emergency response (WSP Australia Pty Ltd, 2023).

Transport Practice 1.5: Follow international standards for transportation of cyanide by sea

Orica's manufacturing facility and transfer stations are ICMC certified. Cyanide is packaged and transported in accordance with international regulatory standards, such as the *United Nations Recommendations on the Transport of Dangerous Goods Model Regulations* (United Nations, 2021) and National Codes of Practice such as the *Australian Code for the Transport of Dangerous Goods by Road or Rail* (National Transport Commission, 2022) thereby meeting the requirements of the political jurisdictions through which the loads will pass.

Orica only operates in export markets that are serviced by major international shipping companies with the ability to offer scheduled container services from point of origin to destination. Orica's *Carrier Assessment- Procedure and Questionnaire* provides the framework for ensuring that carriers and their contractors are assessed at regular intervals to ensure that, amongst others, storage, safety, security, maintenance and emergency response standards are being maintained (Orica, 2024a). Carriers are required to provide manifest documentation, to satisfy local customs regulations and the requirements of the International Maritime Dangerous Goods (IMDG) Code (IMO, 2024b), to the destination port. The manifest should contain a list of the cargo types and in the case of sodium cyanide and any other hazardous cargo the quantity, unique packaging numbers, stowage reference and emergency response procedures.

Liberia is an International Maritime Organization (IMO) Member State (1959) (IMO, Member States, 2024a) and a Safety of Life at Sea (SOLAS) Signatory Nation (1977) (IMO, 2024c), thereby requiring the port to adhere to the international regulations for the transportation and handling of dangerous goods as set out in the IMDG Code (Parts 4, 5 and 7) (IMO, 2024b)and the SOLAS Convention 1974 (Chapter 7) (IMO, 2024c). As an IMO Member State, and to comply with the IMDG Code, vessels are required to declare dangerous cargo before arriving at or leaving the port. Additionally, and regarding the carriage of dangerous goods, Regulation 106 (1) and (2) requires the owner, master or agent of a vessel carrying dangerous goods, as defined in the IMDG Code, to provide written notification to the Port Operations Manager at least 72 hours prior to arrival of the vessel; and, the notification is to provide full particulars, correct technical name as required by Regulation 4.1 of Part A of the SOLAS Convention, dangerous goods class and UN number, the number of packages and mass of such dangerous goods that fall within any of the categories listed in the IMDG Code.

Dangerous goods delivered to or from the Port of Monrovia are required to be appropriately manifested, packaged, labelled and placarded. Documentation that accompanies the cyanide throughout transportation by sea and delivery at ports includes emergency response information along with the dangerous cargo manifest, packing certificates and Multimodal Dangerous Goods Form (WSP Australia Pty Ltd, 2023).

Transport Practice 1.6: Track cyanide shipments to prevent losses during transport

As a member of the IMO and to comply with the International Maritime Solid Bulk Cargoes Code (IMSBC) and IMDG Codes, vessels are required to declare dangerous cargo to the Port Operations Manager before arriving at or leaving the port. All cargo listed on the dangerous cargo manifest must be stowed and handled as prescribed by its UN number and dangerous goods class.

Chain of custody documentation is used by shipping companies to prevent the loss of cargo during shipment. This documentation includes the vessel manifest which identifies the location and content of each container on the vessel along with packing certificates, Multimodal Dangerous Goods Forms and Safety Data Sheets (SDS) (WSP Australia Pty Ltd, 2023).

Transport Practice 2.1: Store cyanide in a manner that minimises the potential for accidental releases

The product transferred through the port is solid cyanide within intermediate bulk containers (IBCs) and within a shipping container, the containers remain sealed which significantly reduces the potential for a cyanide release scenario. There are no storage facilities at the Port of Monrovia for cyanide containers. Where authorisation for import is granted, containers must be transported outside of the port operational area upon discharge (WSP Australia Pty Ltd, 2023).

Transport Practice 3.1: Prepare detailed emergency response plans for potential cyanide releases

Liberia has been a member State of the IMO Council since 1962, it complies with the requirements of the IMDG Code. The product transferred through the port is solid cyanide within IBCs and within shipping containers, the containers remain sealed which significantly reduces the potential for a cyanide release scenario and the product must be transported out of the port operational area upon discharge.

The Port of Monrovia is certified under the International Convention on Oil Pollution Preparedness, Response and Cooperation, 1990 (OPRC 90) (United Nations, 1995). States which are party to OPRC 90 are required to establish a national system for responding to oil and hazardous/noxious substances pollution incidents, including a designated national authority, a national operational contact point and a national contingency plan. This needs to be supported by a minimum level of response equipment, communications plans, and regular training and exercises (ITOPF, 2024).

Emergency response procedures for ships carrying dangerous goods, including the emergency schedules to be followed in case of incidents involving dangerous substances, materials or articles, or harmful substances (marine pollutants), is regulated under the IMDG Code. In accordance with the Code, all ships, and the companies responsible for their operation, are required to maintain a Safety Management System (SMS). Within the SMS, procedures for responding to potential shipboard emergencies are required.

Port operations personnel provide the vessel's Master with copies of the Emergency Information, Dangerous Goods manifest (including stowage plan) and Packaging Certificates for each hazardous cargo transport units loaded onto the ship at the Port of origin.

Conclusion

Based on the evidence reviewed, this due diligence did not find significant issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work; rather it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

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B37 Port of Port Moresby, Papua New Guinea

28 February 2024

PS211281 037. RevA

Author: Megan Wood Approved: Rudi Seebach

Port due diligence executive summary

WSP Pty Ltd (WSP) conducted a due diligence of the Port of Port Moresby Bay during February 2024, on behalf of Orica Australia Pty Ltd (Orica).

The assessment was reviewed by Rudi Seebach, who meets the International Cyanide Management Institute's (ICMI) requirements for a Transport Technical Specialist.

The following items, as detailed in the ICMI's Auditor Guidance for Use of Cyanide Transportation Verification Protocol June 2021 (ICMI 2022), were addressed within the due diligence:

- Transport Practice 1.1 (Questions 1-4 and 6)
- Transport Practice 1.5 (Question 1)
- Transport Practice 1.6
- Transport Practice 2.1
- Transport Practice 3.1.

The ICMI's *Auditor Guidance for Use of Cyanide Transportation Verification Protocol, 2021* (ICMI 2022) was used to conduct the due diligence assessment. It was not possible during this due diligence to physically inspect operations, as such the review was based on information obtained from previous due diligence reviews, ICMI audit reports and publicly available online information. Based on the evidence reviewed, this due diligence did not find issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work. Instead, it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

Overview of the Port of Port Moresby, PNG

The Port Moresby port is located on the southeastern coast of Papua New Guinea (PNG) on the Gulf of Papua in the province of the National Capital. The government of PNG is the sole shareholder, while the PNG Ports Corporation Limited is the port authority and all other port facilities within Papua New Guinea. The PNG Ports Corporation Limited is responsible for managing and controlling the ports whereas the regulatory functions are carried out by the Department of Transport, PNG.

There are 3 conventional Berths and 3 Container Berths with Berth 4A being a multipurpose berth used for handling grain, dry break bulk, and liquid bulk (petroleum) cargoes. It also serves coastal berths in Port Moresby. The port has a terminal that handles containerised cargo, with equipment provided by the stevedoring company. It has a capacity of 120,000 twenty-foot equivalent units (TEUs) per year and a storage area of 6 hectares. Stevedoring Services that facilitate the loading and unloading of cargo from ships, is provided by Ports Services Limited, Bismark Maritime and United Stevedore (Logistics Cluster, 2024a).

ICMC transport verification protocol assessment

Transport Practice 1.1: Select cyanide transport routes to minimise the potential for accidents and releases

Orica uses reputable shipping lines for the transportation of sodium cyanide manufactured by Orica or manufactured by third parties on behalf of Orica (Orica, 2024a).

Orica's Sodium Cyanide Transport Management protocol (Orica, 2024a) states that all routes used for sodium cyanide transport must undergo a risk assessment to determine their suitability. If multiple routes are available, each one requires an individual risk assessment. These assessments are conducted in accordance with the Route Risk Assessment (Orica, 2024c) and AS 4360:2004 Risk Management standards. Any risks identified as "extreme" must be prioritised and addressed through the development of an action plan to mitigate these risks as much as possible. The process for documenting the risks associated with selected routes is outlined in the Route Risk Assessment (Orica, 2024c).

Feedback regarding the routes is taken into consideration and forwarded to the Health, Safety & Environment (HS&E) Officer for the necessary updates to the route assessment. This information is also shared with the Orica representative in the relevant region (Orica, 2024a).

In situations where special safety measures or concerns are present, or where escorts are required, compliance with SUP-GLO-PRO-024 is mandatory. Additionally, Carrier Safety Programs should align with the requirements of SUP-GLO-PRO-005 (Orica, 2024a).

Transport Practice 1.5: Follow international standards for transportation of cyanide by sea

Orica's manufacturing facility and transfer stations are ICMC certified, therefore, sodium cyanide is packaged and transported in accordance with international regulatory standards and in line with all requirements of the International Maritime Dangerous Goods Code (IMDG) and the current versions of the United Nations Dangerous Goods Transport Guidelines, the Australian Code for the Transport of Dangerous Goods by Road and Rail and the International Maritime Dangerous Goods Code (Orica, 2024a).

Carriers are required to provide manifest documentation, to satisfy local customs regulations and the requirements of the International Maritime Dangerous Goods (IMDG) Code (IMO, 2024b), to the destination port. The manifest should contain a list of the cargo types and in the case of sodium cyanide and any other hazardous cargo the quantity, unique packaging numbers, stowage reference and emergency response procedures. Assessment of transportation agencies is via the Orica Carrier Assessment Questionnaire found in SUP-GLO-PRO-016, which enables a self-assessment and external assessment. A scoring system is included in this assessment process with minimum standards detailed (Orica, 2024a).

Papua New Guinea is an International Maritime Organization (IMO) Member State (1976) (IMO, 2019) and a Safety of Life at Sea (SOLAS) Signatory Nation (1974) (ICSLAS, 2024) thereby requiring the Port of Papua New Guinea to adhere to the international regulations for the transportation and handling of dangerous goods as set out in the International Maritime Dangerous Goods Code (Parts 4, 5 and 7) (IMO, 2024b) & (IMO, 2024c).

Transport Practice 1.6: Track cyanide shipments to prevent losses during transport

The Dispatch Centre organises ship movements, tracks pilotage operations, and supervises terminal operations via real-time closed-circuit television (CCTV) monitoring. Chain of custody documentation is used by shipping companies to prevent the loss of cargo during shipment. This documentation includes the vessel manifest which identifies the location and content of each container on the vessel along with packing certificates, Multimodal Dangerous Goods Forms and Safety Data Sheets (SDS) (WSP Australia Pty Ltd, 2023).

As an IMO member state and SOLAS signatory nation, it is a requirement of ships to transmit Long-Range Identification and Tracking (LRIT) information. This system provides global identification and tracking of ships for security, safety, and protection of the marine environment (IMO, 2024c).

Transport Practice 2.1: Store cyanide in a manner that minimises the potential for accidental releases

In general, port and vessel security are managed through the International Ship and Port Facility Security Code (ISPS Code). The ISPS Code is a comprehensive set of measures to enhance security of ships and port facilities and provides a standardised, consistent framework for evaluating risk, enabling Governments to offset changes in threat with changes in vulnerability for ships and port facilities through determination of appropriate security levels and corresponding security measures. The ISPS Code takes the approach that ensuring the security of ships and port facilities is a risk management activity and that, to determine what security measures are appropriate, an assessment of the risks must be made in each case (IMO, SOLAS XI-2 and the ISPS Code, 2024).

As a state member of IMO and The International Convention for the Prevention of Pollution from Ships (MARPOL) 73/78, it ensures the requirements for inspection and reporting of an incident involving harmful substance.

The Marchant Shipping (Dangerous Goods) Regulation 2007 of New Papua Guinea requires any dangerous goods to be thoroughly inspected to avoid leakages or spillage before taking over. PNG ports work to the requirements of the International Maritime Organization's International Ship and port Facility Security Code (NMSA, 2024).

Transport Practice 3.1: Prepare detailed emergency response plans for potential cyanide releases

The NMSA is the national authority for PNG.PNG has been a member State of the IMO Council since 1976 (IMO, Member States, 2024a), it complies with the requirements of the IMDG Code (IMO, 2024b).

The Port Moresby has a National Marine Spill Contingency Plan (NATPLAN) and emergency management plan in place (National Maritime Safety Authority, 2024). The emergency plan identifies three evacuation muster points, and that communication is to be completed through radios.

As per 'article 17 of Marchant Shipping (Dangerous Goods) Regulation 2007' of Papua New Guinea the owner or agent of the ship is required to ensure that the dangerous goods cargo is accompanied with information providing emergency response and must include contingency plans and specific emergency response information for all type of dangerous goods. Further, the emergency response plan needs to be consistent with safety management system adopted (NMSA, 2024).

Conclusion

Based on the evidence reviewed, this due diligence did not find significant issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work; rather it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

References

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B38 Port of Ningbo, China

28 February 2024

PS211281 038. RevA

Author: Megan Wood Approved: Rudi Seebach

Port due diligence executive summary

WSP Pty Ltd (WSP) conducted a due diligence of the Port of Ningbo, China during February 2024 on behalf of Orica Australia Pty Ltd (Orica).

The assessment was reviewed by Rudi Seebach who meets the International Cyanide Management Institute's (ICMI) requirements for a Transport Technical Specialist.

The following items, as detailed in the ICMI's Auditor Guidance for Use of Cyanide Transportation Verification Protocol (ICMI 2021), were addressed within the due diligence:

- Transport Practice 1.1 (Questions 1-4 and 6)
- Transport Practice 1.5 (Question 1)
- Transport Practice 1.6
- Transport Practice 2.1
- Transport Practice 3.1.

The ICMI's *Auditor Guidance for Use of Cyanide Transportation Verification Protocol* (ICMI 2021) was used to conduct the due diligence assessment. It was not possible during this due diligence to physically inspect operations, as such the review was based on information obtained from previous due diligence reviews, ICMI audit reports and publicly available online information. Based on the evidence reviewed, this due diligence did not find issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance of for future work; rather it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

Overview of the Port of Ningbo, China

Ningbo Zhoushan Port comprises 19 port areas with 200 large deepwater berths for vessels exceeding 10,000 dwt and more than 115 large and super-large deepwater berths for vessels over 50,000 dwt. The port operates the majority of large and super-large deepwater berths in Mainland China (Zhejiang Seaport, 2024).

Strategically located on the busiest trade routes in the Pacific Ocean and backed by China's dynamic Yangtze River Delta economic region, Ningbo Zhoushan Port serves as the optimal distribution hub for cargos entering and exiting Mainland China. At the end of 2019, the port had established connections with over 600 ports across 190 countries and regions, offering nearly 250 trade routes, including 120 ocean-going lines (Zhejiang Seaport, 2024).

Since 2005, the cargo volume at Ningbo Zhoushan Port has seen rapid growth and in 2019, the port's container throughput reached 27.535 million twenty-foot equivalent units (TEUs), securing its position as the third largest in the world. Furthermore, the total cargo throughput hit 1.12 billion tons (Zhejiang Seaport, 2024).

Zhejiang Provincial Seaport Investment & Operation Group Co. Ltd., viz. Ningbo Zhoushan Port Group Co. Ltd. (also known as Zhejiang Seaport Group) is a large state-owned enterprise of Zhejiang Province and manages the Ningbo Zhoushan Port (Zhejiang Seaport, 2024).

ICMC transport verification protocol assessment

Transport Practice 1.1: Select cyanide transport routes to minimise the potential for accidents and releases

Orica uses reputable shipping lines for the transportation of sodium cyanide manufactured by Orica or manufactured by third parties on behalf of Orica (Orica, 2024a).

Orica's Sodium Cyanide Transport Management protocol (Orica, 2024a) states that all routes used for sodium cyanide transport must undergo a risk assessment to determine their suitability. If multiple routes are available, each one requires an individual risk assessment. These assessments are conducted in accordance with the Route Risk Assessment (Orica, 2024c) and AS 4360:2004 Risk Management standards. Any risks identified as "extreme" must be prioritised and addressed through the development of an action plan to mitigate these risks as much as possible. The process for documenting the risks associated with selected routes is outlined in the Route Risk Assessment (Orica, 2024c).

Feedback regarding the routes is taken into consideration and forwarded to the Health, Safety & Environment (HS&E) Officer for the necessary updates to the route assessment. This information is also shared with the Orica representative in the relevant region (Orica, 2024a).

In situations where special safety measures or concerns are present, or where escorts are required, compliance with SUP-GLO-PRO-024 is mandatory. Additionally, Carrier Safety Programs should align with the requirements of SUP-GLO-PRO-005 (Orica, 2024a).

Transport Practice 1.5: Follow international standards for transportation of cyanide by sea

Orica's manufacturing facility and transfer stations are ICMC certified, therefore, sodium cyanide is packaged and transported in accordance with international regulatory standards and in line with all requirements of the International Maritime Dangerous Goods Code (IMDG) and the current versions of the United Nations Dangerous Goods Transport Guidelines, the Australian Code for the Transport of Dangerous Goods by Road and Rail and the International Maritime Dangerous Goods Code (Orica, 2024a).

Carriers are required to provide manifest documentation, to satisfy local customs regulations and the requirements of the International Maritime Dangerous Goods (IMDG) Code (IMO, 2024b), to the destination port. The manifest should contain a list of the cargo types and in the case of sodium cyanide and any other hazardous cargo the quantity, unique packaging numbers, stowage reference and emergency response procedures. Assessment of transportation agencies is via the Orica Carrier Assessment Questionnaire found in SUP-GLO-PRO-016, which enables a self-assessment and external assessment. A scoring system is included in this assessment process with minimum standards detailed (Orica, 2024a).

China is an International Maritime Organization (IMO) Member State (1973) (IMO, Member States, 2024a) and a Safety of Life at Sea (SOLAS) Signatory Nation (1974) (IMO, 2024c) thereby requiring the Port of Ningbo to adhere to the international regulations for the transportation and handling of dangerous goods as set out in the International Maritime Dangerous Goods Code (Parts 4, 5 and 7) (IMO, 2024b) & (IMO, 2024c).

Transport Practice 1.6: Track cyanide shipments to prevent losses during transport

Chain of custody documentation is used by shipping companies to prevent the loss of cargo during shipment. This documentation includes the vessel manifest which identifies the location and content of each container on the vessel along with packing certificates, Multimodal Dangerous Goods Forms and Safety Data Sheets (WSP Australia Pty Ltd, 2023).

As a SOLAS signatory nation, it is obligated to transmit Long-Range Identification and Tracking (LRIT) information. This system provides global identification and tracking of ships for security, safety and protection of marine environment (IMO, 2024c).

Transport Practice 2.1: Store cyanide in a manner that minimises the potential for accidental releases

The port of Ningbo has a dedicated dangerous goods transit area for dangerous goods awaiting loading to arriving vessels. Appropriate signage is displayed in this area, as required by IMDG codes. The port operations for dangerous goods are registered and licensed by the government.

The port is listed on the International Ship and Port Facility Security (ISPS) site as accredited. An electronic card access system is in place to enable only authorised access to the port area (Zhejiang Seaport, 2024). Containers departing the port are checked against documentation for matching container numbers and product detail.

Transport Practice 3.1: Prepare detailed emergency response plans for potential cyanide releases

China has been a member State of the IMO Council since 1973, it complies with the requirements of the IMDG Code.

China is certified under the IMO's International Convention on Oil Pollution Preparedness, Response and Cooperation 1990 (IMO, 2024d). States which are party to OPRC 90 protocol are required to establish a national system for responding to oil and hazardous/noxious substances pollution incidents, including a designated national authority, a national operational contact point and a national contingency plan. This needs to be supported by a minimum level of response equipment, communications plans, regular training and exercises (ITOPF, 2024).

The China Maritime Safety Administration (MSA) requires the operator of any ship carrying polluting and hazardous liquid cargoes in bulk and any other vessel over 10,000 GT must have a pollution clean-up contract with an approved ship pollution response organisation (SPRO) before the vessel enters a Chinese port. China MSA set up the Yantai Oil Spill Response Technical Center in 2006. This houses an equipment stockpile and provides emergency response, technical expertise, oil fingerprinting, spill surveillance and forecasting, and training. There are also large response vessels based in key locations along the coast however the requirements place the responsibility for response largely in the hands of the operators of the ships (ITOPF, 2024). The MSA is responsible for the co-ordination of response to HNS at sea. A National Contingency Plan for Hazardous and Noxious Substance incidents exists as an extension of the National Oil Spill Contingency Plan (ITOPF, 2024).

Conclusion

Based on the evidence reviewed, this due diligence did not find significant issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work; rather it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

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B39 Pantoloan Port of Palu, Indonesia

15 March 2024

PS211281 039. RevA

Author: Lilly Kelly Approved: Rudi Seebach

Port due diligence executive summary

WSP Pty Ltd (WSP) conducted a due diligence of the Pantoloan Port of Palu, Indonesia during March 2024 on behalf of Orica Australia Pty Ltd (Orica).

The assessment was reviewed by Rudi Seebach who meets the International Cyanide Management Institute's (ICMI) requirements for a Transport Technical Specialist.

The following items, as detailed in the ICMI's Auditor Guidance for Use of Cyanide Transportation Verification Protocol (ICMI, 2021) were addressed within the due diligence:

- Transport Practice 1.1 (Questions 1-4 and 6)
- Transport Practice 1.5 (Question 1)
- Transport Practice 1.6
- Transport Practice 2.1
- Transport Practice 3.1.

The ICMI's *Auditor Guidance for Use of Cyanide Transportation Verification Protocol* (ICMI, 2021) was used to conduct the due diligence assessment. It was not possible during this due diligence to physically inspect operations, as such the review was based on information obtained from previous due diligence reviews, ICMI audit reports and publicly available online information. Based on the evidence reviewed, this due diligence did not find issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance of for future work; rather it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

Overview of the Pantoloan Port of Palu, Indonesia

The Pantoloan Port of Palu is the main port of Palu Bay. The terminal is in Central Sulawesi province in the district/city of Palu and is located towards the mouth of the cove. The city of Palu is located at the base of the cove. In 2018 and earthquake and subsequent tsunami hit Sulawesi and damaged parts of the Palu Bay ports, leading to works for reconstruction of Patoloan Port to be conducted (ADB, 2022). The port is state owned, and its complete name is PT. Pelabuhan Indonesia IV (Persero) Cabang Pelabuhan Pantoloan.

As of 12 October 2018, the port returned to normal operations for commercial and non-commercial cargo. All vessels can berth at the port however due to damage to infrastructure vessels were required to be equipped with a ship crane for unloading purposes. The port has reach stackers, transtainers and forklifts available however the container gantries were damaged. There are container facilities available, and the existing container yard and warehouse can be used as a Container Freight Station (ADB, 2022).

Pantoloan Port of Palu is the main storage terminal and has two warehouses of 1,000m^2 capacity. One warehouse unit is available however the door was damaged during the earthquake and tsunami and was being guarded by port security (ADB, 2022).

Transport Practice 1.1: Select cyanide transport routes to minimise the potential for accidents and releases

Orica uses reputable shipping lines for the transportation of sodium cyanide manufactured by Orica or manufactured by third parties on behalf of Orica (Orica, 2024a).

Orica's Sodium Cyanide Transport Management protocol (Orica, 2024a) states that all routes used for sodium cyanide transport must undergo a risk assessment to determine their suitability. If multiple routes are available, each one requires an individual risk assessment. These assessments are conducted in accordance with the Route Risk Assessment (Orica, 2024c) and AS 4360:2004 Risk Management standards. Any risks identified as "extreme" must be prioritised and addressed through the development of an action plan to mitigate these risks as much as possible. The process for documenting the risks associated with selected routes is outlined in the Route Risk Assessment (Orica, 2024c).

Feedback regarding the routes is taken into consideration and forwarded to the Health, Safety & Environment (HS&E) Officer for the necessary updates to the route assessment. This information is also shared with the Orica representative in the relevant region (Orica, 2024a).

In situations where special safety measures or concerns are present, or where escorts are required, compliance with SUP-GLO-PRO-024 is mandatory. Additionally, Carrier Safety Programs should align with the requirements of SUP-GLO-PRO-005 (Orica, 2024a).

Transport Practice 1.5: Follow international standards for transportation of cyanide by sea

Orica's manufacturing facility and transfer stations are ICMC certified, therefore, sodium cyanide is packaged and transported in accordance with international regulatory standards and in line with all requirements of the International Maritime Dangerous Goods Code (IMDG) and the current versions of the United Nations Dangerous Goods Transport Guidelines, the Australian Code for the Transport of Dangerous Goods by Road and Rail and the International Maritime Dangerous Goods Code (Orica, 2024a).

Carriers are required to provide manifest documentation, to satisfy local customs regulations and the requirements of the International Maritime Dangerous Goods (IMDG) Code (IMO, 2024b), to the destination port. The manifest should contain a list of the cargo types and in the case of sodium cyanide and any other hazardous cargo the quantity, unique packaging numbers, stowage reference and emergency response procedures. Assessment of transportation agencies is via the Orica Carrier Assessment Questionnaire found in SUP-GLO-PRO-016, which enables a self-assessment and external assessment. A scoring system is included in this assessment process with minimum standards detailed (Orica, 2024a).

Indonesia is an International Maritime Organization (IMO) Member State (1960) (IMO, 2019) and a Safety of Life at Sea (SOLAS) Signatory Nation (1974) (ICSLAS, 2024) thereby requiring the Port of Palu to adhere to the international regulations for the transportation and handling of dangerous goods as set out in the International Maritime Dangerous Goods Code (Parts 4, 5 and 7) (IMO, 2024b) & (IMO, 2024c).

Transport Practice 1.6: Track cyanide shipments to prevent losses during transport

As a SOLAS signatory nation, it is obligated to transmit Long-Range Identification and Tracking (LRIT) information. This system provides global identification and tracking of ships for security, safety, and protection of marine environment (IMO, 2024c).

Transport Practice 2.1: Store cyanide in a manner that minimises the potential for accidental releases

In general, port and vessel security are managed through the International Ship and Port Facility Security Code (ISPS Code). The ISPS Code is a comprehensive set of measures to enhance security of ships and port facilities and is mandatory for the SOLAS signatory countries.

The purpose of the ISPS Code is to provide a standardised, consistent framework for evaluating risk, enabling Governments to offset changes in threat with changes in vulnerability for ships and port facilities through determination of appropriate security levels and corresponding security measures. The ISPS Code takes the approach that ensuring the security of ships and port facilities is a risk management activity and that, to determine what security measures are appropriate, an assessment of the risks must be made in each case.

The Pantoloan Port of Palu was marked as ISPS compliant as of 2018 before the earthquake (Logistics Cluster, 2018).

Transport Practice 3.1: Prepare detailed emergency response plans for potential cyanide releases

Indonesia is not certified under IMO's International Convention on Oil Pollution Preparedness, Response and Cooperation 1990 (OPRC 90); however they have The National Oil Spill Contingency Plan that was launched in 2007. A National Team for Oil Spill Response has been established comprising the Directorate General of Mining and Gas and various other government ministries and agencies. The National Team is responsible for coordinating the implementation of emergency response at sea during major incidents. It also provides legal support to those that suffer financial loss because of the spill (ITOPF, 2018).

Indonesia's National Oil Spill Contingency Plan (NOSCP) would also extend to Hazardous and Noxious Substances. The National Team for Oil Spill Response would provide the technical expertise, with input from other institutions, government departments, the private sector and nongovernmental organisations (NGOs). The National Team through its Command-and-Control Centre would also carry out the response, using personnel, equipment and materials belonging to its member organisations in the vicinity. The DGST has equipment, which could be utilised for HNS spills and supported by equipment from the oil industry (ITOPF, 2018).

Conclusion

Based on the evidence reviewed, this due diligence did not find significant issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work; rather it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

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B40 Port of Puerto Angamos, Chile

29 February 2024

PS211281 040. RevA

Author: Lilly Kelly Approved: Rudi Seebach

Port due diligence executive summary

WSP Pty Ltd (WSP) conducted a due diligence of Puerto Angamos, Chile during February 2024 on behalf of Orica Australia Pty Ltd (Orica).

The assessment was reviewed by Rudi Seebach who meets the International Cyanide Management Institute's (ICMI) requirements for a Transport Technical Specialist.

The following items, as detailed in the ICMI's Auditor Guidance for Use of Cyanide Transportation Verification Protocol (ICMI 2021), were addressed within the due diligence:

- Transport Practice 1.1 (Questions 1-4 and 6)
- Transport Practice 1.5 (Question 1)
- Transport Practice 1.6
- Transport Practice 2.1
- Transport Practice 3.1.

The ICMI's *Auditor Guidance for Use of Cyanide Transportation Verification Protocol* (ICMI 2021) was used to conduct the due diligence assessment. It was not possible during this due diligence to physically inspect operations, as such the review was based on information obtained from previous due diligence reviews, ICMI audit reports and publicly available online information. Based on the evidence reviewed, this due diligence did not find issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance of for future work; rather it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

Overview of the Port of Angamos, Chile

Puerto Angamos is in the heart of the mining region of Chile, in the commune of Mejillones approximately 1,400 km from Santiago and only 65 km from Antofagasta (Puerto Angamos, 2018)

The port is situated close to the most important copper district in the world, where there are several world-renown mining operations such as Chuquicamata, Escondida, Spence, Radomiro Tomic, El Abra and El Tesoro, among others. Angamos has fast access by train and truck connecting the main mining operations of Chile, Argentina and Bolivia, with the port without the need to cross through densely populated areas (WSP Australia Pty Ltd, 2023).

The port has a multi-purpose, mono-operated terminal with four berths, maximum draft is 13.7 metres and there is capacity to receive ships of up to 155 thousand tonnes of displacement and 366 metres in length. Extensive storage capacity exists on site for containers, general/special cargo and bulk goods, as well as good interconnectivity options for transhipment via rail or road.

The Bay of Mejillones offers natural protection that provides exceptional conditions for most of the year against the tides coming from the south of the country. Meanwhile, its deep waters ensure availability to larger vessels and the ability to work safely (WSP Australia Pty Ltd, 2023).

ICMC transport verification protocol assessment

Transport Practice 1.1: Select cyanide transport routes to minimise the potential for accidents and releases

Orica uses reputable shipping lines for the transportation of sodium cyanide manufactured by Orica or manufactured by third parties on behalf of Orica (Orica, 2024a).

Orica's Sodium Cyanide Transport Management protocol (Orica, 2024a) states that all routes used for sodium cyanide transport must undergo a risk assessment to determine their suitability. If multiple routes are available, each one requires an individual risk assessment. These assessments are conducted in accordance with the Route Risk Assessment (Orica, 2024c) and AS 4360:2004 Risk Management standards. Any risks identified as "extreme" must be prioritised and addressed through the development of an action plan to mitigate these risks as much as possible. The process for documenting the risks associated with selected routes is outlined in the Route Risk Assessment (Orica, 2024c).

Feedback regarding the routes is taken into consideration and forwarded to the Health, Safety & Environment (HS&E) Officer for the necessary updates to the route assessment. This information is also shared with the Orica representative in the relevant region (Orica, 2024a).

In situations where special safety measures or concerns are present, or where escorts are required, compliance with SUP-GLO-PRO-024 is mandatory. Additionally, Carrier Safety Programs should align with the requirements of SUP-GLO-PRO-005 (Orica, 2024a).

The port is selected on the basis that it is the closest port to the customer and that it meets all reasonable industry standards for safety, security and emergency response.

Transport Practice 1.5: Follow international standards for transportation of cyanide by sea

Orica's manufacturing facility and transfer stations are ICMC certified, sodium cyanide is packaged and transported in accordance with international regulatory standards, such as the *United Nations Recommendations on the Transport of Dangerous Goods UN Model Regulations Rev. 22* (United Nations, 2021) and National Codes of Practice such as the *Australian Code for the Transport of Dangerous Goods by Road or Rail* (National Transport Commission, 2022) thereby meeting the requirements of the political jurisdictions through which the loads will pass.

Sodium cyanide is packaged and transported in accordance with international regulatory standards and in line with all requirements of the International Maritime Dangerous Goods Code (IMDG) and the current versions of the United Nations Dangerous Goods Transport Guidelines, the Australian Code for the Transport of Dangerous Goods by Road and Rail and the International Maritime Dangerous Goods Code (Orica, 2024a).

Carriers are required to provide manifest documentation, to satisfy local customs regulations and the requirements of the International Maritime Dangerous Goods (IMDG) Code (IMO, 2024b), to the destination port. The manifest should contain a list of the cargo types and in the case of sodium cyanide and any other hazardous cargo the quantity, unique packaging numbers, stowage reference and emergency response procedures. Assessment of transportation agencies is via the Orica Carrier Assessment Questionnaire found in SUP-GLO-PRO-016, which enables a self-assessment and external assessment. A scoring system is included in this assessment process with minimum standards detailed (Orica, 2024a).

Chile is an International Maritime Organization (IMO) Member State (1972) (IMO 2020, internet site) and a Safety of Life at Sea (SOLAS) Signatory Nation (1980) (SOLAS 2020, internet site), thereby requiring the port to adhere to the international regulations for the transportation and handling of dangerous goods as set out in the IMDG Code (Parts 4, 5 and 7) (IMO 2018) and the SOLAS Convention 1974 (Chapter 7) (United Nations 1981).

Transport Practice 1.6: Track cyanide shipments to prevent losses during transport

The Dispatch Centre organises ship movements, tracks pilotage operations, and supervises terminal operations via real-time closed-circuit television (CCTV) monitoring (WSP Australia Pty Ltd, 2023).

Chain of custody documentation is used by shipping companies to prevent the loss of cargo during shipment. This documentation includes the vessel manifest which identifies the location and content of each container on the vessel along with packing certificates, Multimodal Dangerous Goods Forms and Safety Data Sheets (SDS) (WSP Australia Pty Ltd, 2023).

Transport Practice 2.1: Store cyanide in a manner that minimises the potential for accidental releases

In general, port and vessel security are managed through the International Ship and Port Facility Security Code (ISPS Code). The ISPS Code is a comprehensive set of measures to enhance security of ships and port facilities.

The purpose of the ISPS Code is to provide a standardised, consistent framework for evaluating risk, enabling Governments to offset changes in threat with changes in vulnerability for ships and port facilities through determination of appropriate security levels and corresponding security measures. The ISPS Code takes the approach that ensuring the security of ships and port facilities is a risk management activity and that, to determine what security measures are appropriate, an assessment of the risks must be made in each case.

The port of Puerto Angamos aims to have dangerous cargo placed directly onto a trailer and removed from the facility via an ICMI certified transporter, and under escort of the Port Authority (WSP Australia Pty Ltd, 2023). However, when this cannot occur, the port has a dedicated storage area for specialised products including dangerous goods. Cyanide containers are segregated and stacked separately according to the provisions of the Code and all sodium cyanide remains sealed within containers preventing contact with water and other incompatible materials.

Transport Practice 3.1: Prepare detailed emergency response plans for potential cyanide releases

The port of Puerto Angamos is certified under the IMO's International Convention on Oil Pollution Preparedness, Response and Cooperation 1990 (OPRC 90). States which are party to OPRC 90 protocol are required to establish a national system for responding to oil and hazardous/noxious substances pollution incidents, including a designated national authority, a national operational contact point and a national contingency plan. This needs to be supported by a minimum level of response equipment, communications plans, regular training, and exercises (ITOPF, 2024).

Responsibility for marine pollution rests with the Department for Territorial Waters and Merchant Marine (DGTMMM), a branch of the Chilean Navy. Responsibility is delegated to 16 Maritime governing regions and to the 57 Captains of the Port located at the main ports. The Chilean National Contingency Plan embodies five Regional Contingency Plans covering the entire length of the Chilean coastline. Each region has a Coordination Centre (WSP Australia Pty Ltd, 2023).

The responsibility for Hazardous and Noxious Substance (HNS) response would fall to the DGTMMM and would follow the same procedures as oil spill response. A national contingency plan for HNS incidents is currently being drafted by the authorities (ITOPF, 2024). Some private port facilities already have approved contingency plans for HNS on a local and regional scale. Available oil spill response equipment would also be used for HNS incidents. Dedicated oil spill clean-up equipment is maintained at each of the five DGTMMM Regional Coordination Centres. These consist of inshore boom and skimmers, dispersant and spraying equipment. There is little capability for a major offshore response (ITOPF, 2024).

Conclusion

Based on the evidence reviewed, this due diligence did not find significant issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work; rather it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

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B41 Port of Puerto Deseado, Argentina

27 February 2024

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Author: Lilly Kelly Approved: Rudi Seebach

Port due diligence executive summary

WSP Pty Ltd (WSP) conducted a due diligence of Puerto Deseado, Argentina during February 2024 on behalf of Orica Australia Pty Ltd (Orica).

The assessment was reviewed by Rudi Seebach who meets the International Cyanide Management Institute's (ICMI) requirements for a Transport Technical Specialist.

The following items, as detailed in the ICMI's Auditor Guidance for Use of Cyanide Transportation Verification Protocol (ICMI 2021), were addressed within the due diligence:

- Transport Practice 1.1 (Questions 1-4 and 6)
- Transport Practice 1.5 (Question 1)
- Transport Practice 1.6
- Transport Practice 2.1
- Transport Practice 3.1.

The ICMI's *Auditor Guidance for Use of Cyanide Transportation Verification Protocol* (ICMI 2021) was used to conduct the due diligence assessment. It was not possible during this due diligence to physically inspect operations, as such the review was based on information obtained from previous due diligence reviews, ICMI audit reports and publicly available online information. Based on the evidence reviewed, this due diligence did not find issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work. Instead, it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

Overview of the Port of Puerto Deseado, Argentina

Located on the southern Patagonia coast of Argentina, Puerto Deseado is the capital of the Santa Cruz province. Puerto Deseado is situated on the estuary at the mouth of the Deseado River and is a multi-purpose port facility handling fish, container and general cargo (WSP Australia Pty Ltd, 2023).

Port operations include (WSP Australia Pty Ltd, 2023):

- The approach of the vessel to the ports will take into any account any channels, special navigation points and as mentioned above the currents, tides, and weather.
- Entry into port is controlled by the port's Pilot who understands the port protocols and any unique issues regarding the approach and docking of a vessel at the port. The Ship's Captain works in conjunction with the Pilot as he understands his vessel and can implement and assist with the Pilot's instructions.

- Port protocols exist for docking of vessels (e.g.,, use of Pilots, use of tugboats, management of different weather conditions, tides, currents and safety and general port operations). This sees to the safe docking and turnaround of the vessels in and out of the port.
- Once a vessel is secure alongside the wharf the shipping activities changeover to port activities. The vessels manifest of what containers are required to be unloaded from the vessel, including the manifest for containers for loading are handed over. This manifest will identify hazardous cargos and their UN number and classification and segregation requirements.

Stevedoring is undertaken by third-party contractors. Stevedoring operations include (WSP Australia Pty Ltd, 2023):

- Handling of the containers whether full or empty on and off the vessels; container storage areas for general cargo, port security, control systems for companies and their vehicles collecting and or delivering containers.
- Software programs that control container placement and movement; these software packages identify each individual container placement area in designated stacks. The input information for the placement of containers comes from the vessel's manifest.

ICMC transport verification protocol assessment

Transport Practice 1.1: Select cyanide transport routes to minimise the potential for accidents and releases

Orica uses reputable shipping lines for the transportation of sodium cyanide manufactured by Orica or manufactured by third parties on behalf of Orica (Orica, 2024a).

Orica's Sodium Cyanide Transport Management protocol (Orica, 2024a) states that all routes used for sodium cyanide transport must undergo a risk assessment to determine their suitability. If multiple routes are available, each one requires an individual risk assessment. These assessments are conducted in accordance with the Route Risk Assessment (Orica, 2024c) and AS 4360:2004 Risk Management standards. Any risks identified as "extreme" must be prioritised and addressed through the development of an action plan to mitigate these risks as much as possible. The process for documenting the risks associated with selected routes is outlined in the Route Risk Assessment (Orica, 2024c).

Feedback regarding the routes is taken into consideration and forwarded to the Health, Safety & Environment (HS&E) Officer for the necessary updates to the route assessment. This information is also shared with the Orica representative in the relevant region (Orica, 2024a).

In situations where special safety measures or concerns are present, or where escorts are required, compliance with SUP-GLO-PRO-024 is mandatory. Additionally, Carrier Safety Programs should align with the requirements of SUP-GLO-PRO-005 (Orica, 2024a).

The port is selected on the basis that it is the closest port to the customer and that it meets all reasonable industry standards for safety, security, and emergency response (WSP Australia Pty Ltd, 2023).

Transport Practice 1.5: Follow international standards for transportation of cyanide by sea

Orica's manufacturing facility and transfer stations are ICMC certified, therefore, sodium cyanide is packaged and transported in accordance with international regulatory standards and in line with all requirements of the International Maritime Dangerous Goods Code (IMDG) and the current versions of the United Nations Dangerous Goods Transport Guidelines, the Australian Code for the Transport of Dangerous Goods by Road and Rail and the International Maritime Dangerous Goods Code (Orica, 2024a).

Carriers are required to provide manifest documentation, to satisfy local customs regulations and the requirements of the International Maritime Dangerous Goods (IMDG) Code (IMO, 2024b), to the destination port. The manifest should contain a list of the cargo types and in the case of sodium cyanide and any other hazardous cargo the quantity, unique packaging numbers, stowage reference and emergency response procedures. Assessment of transportation agencies is via the Orica Carrier Assessment Questionnaire found in SUP-GLO-PRO-016, which enables a self-assessment and external assessment. A scoring system is included in this assessment process with minimum standards detailed (Orica, 2024a).

Puerto Deseado is an International Maritime Organization (IMO) Member State (1953) (IMO, Member States, 2024a) and a Safety of Life at Sea (SOLAS) Signatory Nation (1974) (ICSLAS, 2024) thereby requiring the Port of Puerto Deseado to adhere to the international regulations for the transportation and handling of dangerous goods as set out in the International Maritime Dangerous Goods Code (Parts 4, 5 and 7) (IMO, 2024b) & (IMO, 2024c).

Transport Practice 1.6: Track cyanide shipments to prevent losses during transport

The Dispatch Centre organises ship movements, tracks pilotage operations, and supervises terminal operations via real-time closed-circuit television (CCTV) monitoring (WSP Australia Pty Ltd, 2023).

Chain of custody documentation is used by shipping companies to prevent the loss of cargo during shipment. This documentation includes the vessel manifest which identifies the location and content of each container on the vessel along with packing certificates, Multimodal Dangerous Goods Forms and Safety Data Sheets (SDS) (WSP Australia Pty Ltd, 2023).

Transport Practice 2.1: Store cyanide in a manner that minimises the potential for accidental releases

In general, port and vessel security are managed through the International Ship and Port Facility Security Code (ISPS Code). The ISPS Code is a comprehensive set of measures to enhance security of ships and port facilities.

The purpose of the ISPS Code is to provide a standardised, consistent framework for evaluating risk, enabling Governments to offset changes in threat with changes in vulnerability for ships and port facilities through determination of appropriate security levels and corresponding security measures. The ISPS Code takes the approach that ensuring the security of ships and port facilities is a risk management activity and that, to determine what security measures are appropriate, an assessment of the risks must be made in each particular case.

The port of Puerto Deseado operates under a suite of International and National regulations that ensures its compliance with regards to the handling and storage of dangerous goods (WSP Australia Pty Ltd, 2023). Sodium cyanide transited through the Port of Puerto Deseado is temporary and remains on site for less than a day. This is a management measure to minimise potential for accidental releases during storage. All sodium cyanide transited through the Port of Puerto Deseado always remains sealed in containers preventing contact with water and other incompatible materials.

Transport Practice 3.1: Prepare detailed emergency response plans for potential cyanide releases

Argentina has been a member State of the IMO Council since 1953, it complies with the requirements of the IMDG Code (IMO, 2024b).

The Prefectura Naval Argentina (PNA) is the competent authority (specifically the Directorate for Environmental Protection) and administers the National Contingency Plan (NCP) for dealing with pollution by oil and other noxious substances in marine and freshwater environments. The PNA consists of two branches; one section deals with policy and implementing the international Conventions; the other has an operational role and is responsible for planning and responding to pollution incidents. This department has 19 Rescue, Firefighting and Environmental Protection stations located in Argentina's principal ports (ITOPF, 2024).

The port of Puerto Deseado is certified under the IMO's International Convention on Oil Pollution Preparedness, Response and Cooperation 1990 (United Nations, 1995). States which are party to OPRC 90 protocol are required to establish a national system for responding to oil and hazardous/noxious substances pollution incidents, including a designated national authority, a national operational contact point and a national contingency plan. This needs to be supported by a minimum level of response equipment, communications plans, regular training and exercises (ITOPF, 2024).

The PNA, with the support of private contractors, manages the response to and monitoring of a Hazardous and Noxious Substances (HNS) incident and some equipment is readily available (such as PPE, respirators, pumps, power packs and air monitoring equipment). The PNA is currently engaged in a programme of training and exercises in preparation for spills of both oil and HNS (WSP Australia Pty Ltd, 2023).

Conclusion

Based on the evidence reviewed, this due diligence did not find significant issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work; rather it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

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B42 Port of Puntas Arenas, Chile

15 March 2024

PS211281 042. RevA

Author: Lilly Kelly   Approved: Rudi Seebach

Port due diligence executive summary

WSP Pty Ltd (WSP) conducted a due diligence of Puntas Arenas, Chile during March 2024 on behalf of Orica Australia Pty Ltd (Orica).

The assessment was reviewed by Rudi Seebach who meets the International Cyanide Management Institute's (ICMI) requirements for a Transport Technical Specialist.

The following items, as detailed in the ICMI's Auditor Guidance for Use of Cyanide Transportation Verification Protocol (ICMI 2021), were addressed within the due diligence:

- Transport Practice 1.1 (Questions 1-4 and 6)
- Transport Practice 1.5 (Question 1)
- Transport Practice 1.6
- Transport Practice 2.1
- Transport Practice 3.1.

The ICMI's *Auditor Guidance for Use of Cyanide Transportation Verification Protocol* (ICMI 2021) was used to conduct the due diligence assessment. It was not possible during this due diligence to physically inspect operations, as such the review was based on information obtained from previous due diligence reviews, ICMI audit reports and publicly available online information. Based on the evidence reviewed, this due diligence did not find issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work. Instead, it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

Overview of the Port of Puntas Arenas, Chile

Port of Punta Arenas is in south Chile in the Strait of Magellan and is a principal seaport. It is a replenishment port for vessels making the transit between the Atlantic and Pacific Oceans and handles a limited amount of general cargo and container. The port is made up of sub-ports and smaller terminals such as Puerto Percy, Lenadura, Cabo Negro, Bahia Gregoria, Caleta Clarencia, Caleta Cutter, Puerto Natales, Laredo and Pecket. Approximately 360,000t of cargo and 13,000 twenty-foot equivalent units (TEUs) are handled annually (Seabay Logistics, 2024).

ICMC transport verification protocol assessment

Transport Practice 1.1: Select cyanide transport routes to minimise the potential for accidents and releases

Orica uses reputable shipping lines for the transportation of sodium cyanide manufactured by Orica or manufactured by third parties on behalf of Orica (Orica, 2024a).

Orica's Sodium Cyanide Transport Management protocol (Orica, 2024a) states that all routes used for sodium cyanide transport must undergo a risk assessment to determine their suitability. If multiple routes are available, each one requires an individual risk assessment. These assessments are conducted in accordance with the Route Risk Assessment (Orica, 2024c) and AS 4360:2004 Risk Management standards. Any risks identified as "extreme" must be prioritised and addressed through the development of an action plan to mitigate these risks as much as possible. The process for documenting the risks associated with selected routes is outlined in the Route Risk Assessment (Orica, 2024c).

Feedback regarding the routes is taken into consideration and forwarded to the Health, Safety & Environment (HS&E) Officer for the necessary updates to the route assessment. This information is also shared with the Orica representative in the relevant region (Orica, 2024a).

In situations where special safety measures or concerns are present, or where escorts are required, compliance with SUP-GLO-PRO-024 is mandatory. Additionally, Carrier Safety Programs should align with the requirements of SUP-GLO-PRO-005 (Orica, 2024a).

Transport Practice 1.5: Follow international standards for transportation of cyanide by sea

Orica's manufacturing facility and transfer stations are ICMC certified, therefore, sodium cyanide is packaged and transported in accordance with international regulatory standards and in line with all requirements of the International Maritime Dangerous Goods Code (IMDG) and the current versions of the United Nations Dangerous Goods Transport Guidelines, the Australian Code for the Transport of Dangerous Goods by Road and Rail and the International Maritime Dangerous Goods Code (Orica, 2024a).

Carriers are required to provide manifest documentation, to satisfy local customs regulations and the requirements of the International Maritime Dangerous Goods (IMDG) Code (IMO, 2024b), to the destination port. The manifest should contain a list of the cargo types and in the case of sodium cyanide and any other hazardous cargo the quantity, unique packaging numbers, stowage reference and emergency response procedures. Assessment of transportation agencies is via the Orica Carrier Assessment Questionnaire found in SUP-GLO-PRO-016, which enables a self-assessment and external assessment. A scoring system is included in this assessment process with minimum standards detailed (Orica, 2024a).

Chile is an International Maritime Organization (IMO) Member State (1972) (IMO, 2019) and a Safety of Life at Sea (SOLAS) Signatory Nation (1974) (ICSLAS, 2024) thereby requiring the port to adhere to the international regulations for the transportation and handling of dangerous goods as set out in the International Maritime Dangerous Goods Code (Parts 4, 5 and 7) (IMO, 2024b)& (IMO, 2024c).

Transport Practice 1.6: Track cyanide shipments to prevent losses during transport

The Dispatch Centre organises ship movements, tracks pilotage operations, and supervises terminal operations via real-time closed-circuit television (CCTV) monitoring (WSP Australia Pty Ltd, 2023).

Chain of custody documentation is used by shipping companies to prevent the loss of cargo during shipment. This documentation includes the vessel manifest which identifies the location and content of each container on the vessel along with packing certificates, Multimodal Dangerous Goods Forms and Safety Data Sheets (SDS) (WSP Australia Pty Ltd, 2023).

Transport Practice 2.1: Store cyanide in a manner that minimises the potential for accidental releases

In general, port and vessel security are managed through the International Ship and Port Facility Security Code (ISPS Code). The ISPS Code is a comprehensive set of measures to enhance security of ships and port facilities.

The purpose of the ISPS Code is to provide a standardised, consistent framework for evaluating risk, enabling Governments to offset changes in threat with changes in vulnerability for ships and port facilities through determination of appropriate security levels and corresponding security measures. The ISPS Code takes the approach that ensuring the security of ships and port facilities is a risk management activity and that, to determine what security measures are appropriate, an assessment of the risks must be made in each case.

The port of Punta Arenas aims to have dangerous cargo placed directly onto a trailer and removed from the facility via an ICMI certified transporter, and under escort of the Port Authority (WSP Australia Pty Ltd, 2023). However, when this cannot occur, the port has a dedicated storage area for specialised products including dangerous goods. Cyanide containers are segregated and stacked separately according to the provisions of the Code and all sodium cyanide remains sealed within containers preventing contact with water and other incompatible materials.

The port has full CCTV coverage, is fully lit at night and the whole of the port area has controlled access (WSP Australia Pty Ltd, 2023).

Transport Practice 3.1: Prepare detailed emergency response plans for potential cyanide releases

The port of Punta Arenas is certified under the IMO's International Convention on Oil Pollution Preparedness, Response and Cooperation 1990 (OPRC 90). States which are party to OPRC 90 protocol are required to establish a national system for responding to oil and hazardous/noxious substances pollution incidents, including a designated national authority, a national operational contact point and a national contingency plan. This needs to be supported by a minimum level of response equipment, communications plans, regular training, and exercises (ITOPF, 2024).

Responsibility for marine pollution rests with the Department for Territorial Waters and Merchant Marine (DGTMMM), a branch of the Chilean Navy. Responsibility is delegated to 16 Maritime governing regions and to the 57 Captains of the Port located at the main ports. The Chilean National Contingency Plan embodies five Regional Contingency Plans covering the entire length of the Chilean coastline. Each region has a Coordination Centre (WSP Australia Pty Ltd, 2023).

The responsibility for Hazardous and Noxious Substance (HNS) response would fall to the DGTMMM and would follow the same procedures as oil spill response. A national contingency plan for HNS incidents is currently being drafted by the authorities (ITOPF, 2024). Some private port facilities already have approved contingency plans for HNS on a local and regional scale. Available oil spill response equipment would also be used for HNS incidents.

Dedicated oil spill clean-up equipment is maintained at each of the five DGTMMM Regional Coordination Centres. These consist of inshore boom and skimmers, dispersant and spraying equipment. There is little capability for a major offshore response (ITOPF, 2024).

Conclusion

Based on the evidence reviewed, this due diligence did not find significant issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work; rather it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

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B43 Seabay Logisticsport of Rockhampton (Formerly port of Alma), Australia

1st March 2024

PS211281 043. RevA

Author: Megan Wood Approved: Rudi Seebach

Port due diligence executive summary

WSP Pty Ltd (WSP) conducted a due diligence of the Port of Rockhampton, Australia (formerly known as port of Alma) during March 2024 on behalf of Orica Australia Pty Ltd (Orica).

The assessment was reviewed by Rudi Seebach who meets the International Cyanide Management Institute's (ICMI) requirements for a Transport Technical Specialist.

The following items, as detailed in the ICMI's Auditor Guidance for Use of Cyanide Transportation Verification Protocol (ICMI 2021), were addressed within the due diligence:

- Transport Practice 1.1 (Questions 1-4 and 6)
- Transport Practice 1.5 (Question 1)
- Transport Practice 1.6
- Transport Practice 2.1
- Transport Practice 3.1.

The ICMI's *Auditor Guidance for Use of Cyanide Transportation Verification Protocol* (ICMI 2021) was used to conduct the due diligence assessment. It was not possible during this due diligence to physically inspect operations, as such the review was based on information obtained from previous due diligence reviews, ICMI audit reports and publicly available online information. Based on the evidence reviewed, this due diligence did not find issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work. Instead, it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

Overview of the Port of Rockhampton, Australia

The port of Rockhampton (RoP) (formerly known as port of Alma) is located 62 kilometres (km) east of Rockhampton the southern end of the Fitzroy River delta (GPC, 2022). The port is managed by the Gladstone ports Corporation (GPC), a statutory Queensland Government-owned corporation who maintain the dredging, security, berths and operations at the port. The principal cargoes handled are class 1 explosives (Class 5.1 under International Maritime Dangerous Goods (IMDG) Code, ammonium nitrate, bulk tallow and military equipment for exercises held regularly at Shoalwater Bay to the north of Rockhampton (GPC, 2022). The port is a natural deep-water harbour that accommodates vessels up to 180 metres in length and has a total storage area of 140 hectares (GPC, 2022).

The port has three berths, 1 & 2 are for general cargo operations and Berth 3 is dedicated to tallow/fuel cargoes (Seabay Logistics, 2024). Suitable infrastructure is available for the handling of containers, with approximately 248,620t of cargo handled annually. The main imports entering this port include petroleum products, ammonium nitrate, explosives, break bulk and general cargoes. The principal exports leaving this port are frozen beef, live cattle, tallow, ammonium nitrate, explosives, scrap metal, break bulk and general cargo (Seabay Logistics, 2024).

Shipping legislation in Queensland is controlled by Maritime Safety Queensland (MSQ), a state government agency attached to the Department of Transport and Main Roads (Maritime Safety Queensland, 2020). GPC is responsible for the management of dangerous goods in the port, including the loading and unloading of ships alongside and movement across the wharf. MSQ is responsible for monitoring and managing the safe movement of ships in Queensland waters.

Port operations include (WSP Australia Pty Ltd, 2023):

- The approach of a vessel to the port will consider channels, navigation points, currents, tides and weather.
- Port entry is controlled by the Pilot who understands the port protocols and any unique issues regarding the approach and docking of vessels at the port. The Ship's Captain works in conjunction with the Pilot as they understand the vessel and can implement and assist with the Pilot's instructions.
- Once a vessel is secure alongside the wharf, the shipping activities changeover to port activities. The vessel's manifest of what containers are required to be unloaded, including the manifest for containers for loading are handed over. This manifest identifies hazardous cargos and their United Nations (UN) number, classification, and segregation requirements.
- Port protocols and procedures are in place for docking of vessels at the port (e.g.,, use of Pilots and tugboats, management of weather conditions, tides, currents and safety, and general operations of the port). This sees to the safe docking and turnaround of vessels in and out of the port.

Third party stevedores manage the onshore (wharf) operations at the container terminal. Stevedoring operations include (WSP Australia Pty Ltd, 2023):

- Handling of the containers whether full or empty on and off the vessels; container storage areas for general cargo, port security, control systems for companies and their vehicles collecting and or delivering containers.
- Software programs that control container placement and movement; these software packages identify each individual container placement area in designated stacks. The input information for the placement of containers comes from the vessel's manifest.

ICMC transport verification protocol assessment

Transport Practice 1.1: Select cyanide transport routes to minimise the potential for accidents and releases

Orica uses reputable shipping lines for the transportation of sodium cyanide manufactured by Orica or manufactured by third parties on behalf of Orica (Orica, 2024a).

Orica's Sodium Cyanide Transport Management protocol (Orica, 2024a) states that all routes used for sodium cyanide transport must undergo a risk assessment to determine their suitability. If multiple routes are available, each one requires an individual risk assessment. These assessments are conducted in accordance with the Route Risk Assessment (Orica, 2024c) and AS 4360:2004 Risk Management standards. Any risks identified as "extreme" must be prioritised and addressed through the development of an action plan to mitigate these risks as much as possible. The process for documenting the risks associated with selected routes is outlined in the Route Risk Assessment (Orica, 2024c).

Feedback regarding the routes is taken into consideration and forwarded to the Health, Safety & Environment (HS&E) Officer for the necessary updates to the route assessment. This information is also shared with the Orica representative in the relevant region (Orica, 2024a).

In situations where special safety measures or concerns are present, or where escorts are required, compliance with SUP-GLO-PRO-024 is mandatory. Additionally, Carrier Safety Programs should align with the requirements of SUP-GLO-PRO-005 (Orica, 2024a).

The port of Rockhampton is near well established primary industries, including mining, milling, bulk production, processing and manufacturing. It is the leading transhipment point for trade and resources into the region. While no rail connection currently exists, the port is well connected for onward transport via road (WSP Australia Pty Ltd, 2023).

Transport Practice 1.5: Follow international standards for transportation of cyanide by sea

Orica's manufacturing facility and transfer stations are ICMC certified, therefore, sodium cyanide is packaged and transported in accordance with international regulatory standards and in line with all requirements of the International Maritime Dangerous Goods Code (IMDG) and the current versions of the United Nations Dangerous Goods Transport Guidelines, the Australian Code for the Transport of Dangerous Goods by Road and Rail and the International Maritime Dangerous Goods Code (Orica, 2024a).

Carriers are required to provide manifest documentation, to satisfy local customs regulations and the requirements of the International Maritime Dangerous Goods (IMDG) Code (IMO, 2024b), to the destination port. The manifest should contain a list of the cargo types and in the case of sodium cyanide and any other hazardous cargo the quantity, unique packaging numbers, stowage reference and emergency response procedures. Assessment of transportation agencies is via the Orica Carrier Assessment Questionnaire found in SUP-GLO-PRO-016, which enables a self-assessment and external assessment. A scoring system is included in this assessment process with minimum standards detailed (Orica, 2024a).

Australia is an International Maritime Organization (IMO) Member State (1952) (IMO, 2019) and a Safety of Life at Sea (SOLAS) Signatory Nation (1974) (ICSLAS, 2024) thereby requiring the Port of Rockhampton to adhere to the international regulations for the transportation and handling of dangerous goods as set out in the International Maritime Dangerous Goods Code (Parts 4, 5 and 7) (IMO, 2024b) & (IMO, 2024c).

Transport Practice 1.6: Track cyanide shipments to prevent losses during transport

MSQ, through the authority of the Harbour Master, has jurisdiction over the safe movement of all shipping within the pilotage area. The Regional Harbour Master controls the movement of vessels within the port, whilst the allocation of berths and moorings is controlled by GPC (GPC, 2022)

Chain of custody documentation is used by shipping companies to prevent the loss of cargo during shipment. This documentation includes the vessel manifest which identifies the location and content of each container on the vessel along with packing certificates, Multimodal Dangerous Goods Forms and Safety Data Sheets.

Division 13 of the Transport Operations (Marine Safety) Regulation 2004 outlines the duties of owners and masters of vessels in relation to the carriage of dangerous goods (Queensland, 2004). The regulations require that ships carrying dangerous goods must comply with the appropriate directions of the IMDG code (IMO, 2024b) and Australian Standard (AS) 3846-2005 The Handling and Transport of Dangerous Cargoes in port Areas (Standards Australia, 2005) and are to notify GPC of the intent to bring dangerous cargo into or depart from a pilotage area.

Transport Practice 2.1: Store cyanide in a manner that minimises the potential for accidental releases

Cyanide transited through the Port of Rockhampton is temporary and remains on site for a short period of time. This is a management measure to minimise potential for accidental releases during storage. All sodium cyanide transited through the Port of Rockhampton is segregated and always remains sealed within containers preventing contact with water and other incompatible materials. GPC has secure container yards available for use. These areas are concreted, secured via a perimeter fence and under floodlights at night (GPC, 2023).

The port and vessel security are managed through the International Ship and port Facility Security Code (ISPS Code). The ISPS Code is a comprehensive set of measures to enhance security of ships and port facilities, regulated by the *Maritime Transport and Offshore Facilities Security Act, 2003* (Australian Government, 2021)

GPC has an approved Maritime Security Plan as required under the *Maritime Transport and Offshore Facilities Security Act, 2003*. A ship's master, prior to entering the Port of port Alma, must report directly to the port authority or via their respective ship agency the following (Maritime Safety Queensland, 2020)

- ISPS Code compliance number
- Current ship security level or any change to the ship security level whilst in the port
- List of expected visitors/contractors
- Nominated stevedore
- Crew list and identification
- Any security incident (as defined under the ISPS Code or maritime transport security legislation) whilst in port.

The *Maritime Transport and Offshore Facilities Security Act and Regulations 2003* also requires the establishment of maritime security zones in and around the port and wharf facilities as part of maritime security plans. These regulated zones have been established at the Port of Rockhampton and place restrictions and limitations on who may enter both land and marine side restricted zones (WSP Australia Pty Ltd, 2023).

Transport Practice 3.1: Prepare detailed emergency response plans for potential cyanide releases

The port of Rockhampton is certified under the International Convention on Oil Pollution Preparedness, Response and Cooperation, 1990 (OPRC 90) (United Nations, 1995). States which are party to OPRC 90 protocol are required to establish a national system for responding to oil and hazardous/noxious substances pollution incidents, including a designated national authority, a national operational contact point and a national contingency plan. This needs to be supported by a minimum level of response equipment, communications plans, regular training and exercises (ITOPF, 2024).

Australian Maritime Safety Authority (AMSA), a federal government, self-funded, maritime safety agency established in 1990, is responsible for providing a national response capability for marine pollution. AMSA administers the intergovernmental agreement on the *National Plan to Combat Pollution of the Sea by Oil and other Noxious and Hazardous Substances,* a cooperative arrangement between the Federal, State and Territory Governments and the shipping, oil, exploration and chemical industries, emergency services and fire brigades (Australian Government, 2021).

GPC has published an emergency response plan for the Port of Rockhampton which details the required response to an emergency within the port. All emergencies are reported via VHF channel 16, which activates the emergency response plan and notifies the appropriate emergency response service. Section 12 (port Safety) of the *port Procedures and Information for Shipping, port of Alma* provides guidance to the port community and Maritime Safety Queensland's personnel in the response procedures in the event of dangerous incidents, emergencies and disasters (MSQ, 2023).

Conclusion

Based on the evidence reviewed, this due diligence did not find significant issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work; rather it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

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B44 Port of Santos, Brazil

8 March 2024

PS211281 044. RevA

Author: Lilly Kelly   Approved: Rudi Seebach

Port due diligence executive summary

WSP Pty Ltd (WSP) conducted a due diligence of Santos, Brazil during March 2024 on behalf of Orica Australia Pty Ltd (Orica).

The assessment was reviewed by Rudi Seebach, who meets the International Cyanide Management Institute's (ICMI) requirements for a Transport Technical Specialist.

The following items, as detailed in the ICMI's Auditor Guidance for Use of Cyanide Transportation Verification Protocol (ICMI, 2021), were addressed within the due diligence:

- Transport Practice 1.1 (Questions 1-4 and 6)
- Transport Practice 1.5 (Question 1)
- Transport Practice 1.6
- Transport Practice 2.1
- Transport Practice 3.1.

The ICMI's *Auditor Guidance for Use of Cyanide Transportation Verification Protocol* (ICMI 2021) was used to conduct the due diligence assessment. It was not possible during this due diligence to physically inspect operations, as such the review was based on information obtained from previous due diligence reviews, ICMI audit reports and publicly available online information. Based on the evidence reviewed, this due diligence did not find issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work. Instead, it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

Overview of the Port of Santos, Brazil

The Port of Santos is the largest in Latin America and connects over 600 ports in 125 countries. In 2018, the port was responsible for processing 133 million tons of cargo and 4.1 million twenty-foot equivalent units (TEUs) (Santos Port Authority, 2021).

Santos is the most important foreign trade route in Brazil. Almost 27% of the country's trade balance passes through the port. It is also the 39th largest container port on Lloyd's Top 100 list (the second largest in Latin America, and the only Brazilian port on the list) (Santos Port Authority, 2021).

Santos Port Authority manages the public port, its operations, and its surveillance. In 2018 the Port operations were stated to include (WSP Australia Pty Ltd, 2023):

- Port protocols exist for docking of vessels (e.g.,, Pilots, use of tugboats, management of different weather conditions, tides, currents and safety, and general port operations). This sees to the safe docking and turnaround of the vessels in and out of the port.
- Entry into port is controlled by the port's Pilot who understands the port protocols and any unique issues regarding the approach and docking of a vessel at the port. The Ship's Captain works in conjunction with the Pilot as he understands his vessel and can implement and assist with the Pilot's instructions.

- The approach of the vessel to the ports will take into any account any channels, special navigation points and as mentioned above the currents, tides, and weather.
- Once a vessel is secure alongside the wharf the shipping activities changeover to port activities. The vessels manifest of what containers are required to be unloaded from the vessel, including the manifest for containers for loading are handed over. The manifest will identify hazardous cargos and their UN number and classification and segregation requirements.

The stevedoring services are provided by private third-party companies. They manage the onshore (wharf) operations at the dedicated container terminals.

Stevedoring operations include (WSP Australia Pty Ltd, 2023):

- Handling of the containers whether full or empty on and off the vessels; container storage areas for general cargo, port security, control systems for companies and their vehicles collecting and or delivering containers.
- Software programs that control container placement and movement; these software packages identify each individual container placement area in designated stacks. The input information for the placement of containers comes from the vessel's manifest.

ICMC transport verification protocol assessment

Transport Practice 1.1: Select cyanide transport routes to minimise the potential for accidents and releases

Orica uses reputable shipping lines for the transportation of sodium cyanide manufactured by Orica or manufactured by third parties on behalf of Orica (Orica, 2024a).

Orica's Sodium Cyanide Transport Management protocol (Orica, 2024a) states that all routes used for sodium cyanide transport must undergo a risk assessment to determine their suitability. If multiple routes are available, each one requires an individual risk assessment. These assessments are conducted in accordance with the Route Risk Assessment (Orica, 2024c) and AS 4360:2004 Risk Management standards. Any risks identified as "extreme" must be prioritised and addressed through the development of an action plan to mitigate these risks as much as possible. The process for documenting the risks associated with selected routes is outlined in the Route Risk Assessment (Orica, 2024c).

Feedback regarding the routes is taken into consideration and forwarded to the Health, Safety & Environment (HS&E) Officer for the necessary updates to the route assessment. This information is also shared with the Orica representative in the relevant region (Orica, 2024a).

In situations where special safety measures or concerns are present, or where escorts are required, compliance with SUP-GLO-PRO-024 is mandatory. Additionally, Carrier Safety Programs should align with the requirements of SUP-GLO-PRO-005 (Orica, 2024a).

The port is selected on the basis that it is the closest port to the customer and that it meets all reasonable industry standards for safety, security, and emergency response (WSP Australia Pty Ltd, 2023).

Transport Practice 1.5: Follow international standards for transportation of cyanide by sea

Orica's manufacturing facility and transfer stations are ICMC certified, therefore, sodium cyanide is packaged and transported in accordance with international regulatory standards and in line with all requirements of the International Maritime Dangerous Goods Code (IMDG) and the current versions of the United Nations Dangerous Goods Transport Guidelines, the Australian Code for the Transport of Dangerous Goods by Road and Rail and the International Maritime Dangerous Goods Code (Orica, 2024a).

Carriers are required to provide manifest documentation, to satisfy local customs regulations and the requirements of the International Maritime Dangerous Goods (IMDG) Code (IMO, 2024b), to the destination port. The manifest should contain a list of the cargo types and in the case of sodium cyanide and any other hazardous cargo the quantity, unique packaging numbers, stowage reference and emergency response procedures. Assessment of transportation agencies is via the Orica Carrier Assessment Questionnaire found in SUP-GLO-PRO-016, which enables a self-assessment and external assessment. A scoring system is included in this assessment process with minimum standards detailed (Orica, 2024a).

Brazil is an International Maritime Organization (IMO) Member State (1963) (IMO, Member States, 2024a) and a Safety of Life at Sea (SOLAS) Signatory Nation (1974) (IMO, 2024b) thereby requiring the Port of Santos to adhere to the international regulations for the transportation and handling of dangerous goods as set out in the International Maritime Dangerous Goods Code (Parts 4, 5 and 7) (IMO, 2024b)& (IMO, 2024c).

Transport Practice 1.6: Track cyanide shipments to prevent losses during transport

The Dispatch Centre organises ship movements, tracks pilotage operations, and supervises terminal operations via real-time closed-circuit television (CCTV) monitoring (WSP Australia Pty Ltd, 2023).

Chain of custody documentation is used by shipping companies to prevent the loss of cargo during shipment. This documentation includes the vessel manifest which identifies the location and content of each container on the vessel along with packing certificates, Multimodal Dangerous Goods Forms and Safety Data Sheets (SDS) (WSP Australia Pty Ltd, 2023). Supervia is a unified document system designed for businesses operating in the Port of Santos. It provides a streamlined platform for maritime agents to submit their cargo manifests, thereby enhancing process efficiency and control (Santos Port Authority, 2024).

When cargo is discharged, the stevedores check the security seals against the manifest and discharge paperwork. If the seals do not match, the cargo owner is notified. Clerks match up paperwork with what has been discharged against the vessel manifests.

Transport Practice 2.1: Store cyanide in a manner that minimises the potential for accidental releases

The port of Santos is International Ship and Port Security (ISPS) certified. The ISPS Code is a comprehensive set of measures to enhance security of ships and port facilities.

The purpose of the ISPS Code is to provide a standardised, consistent framework for evaluating risk, enabling Governments to offset changes in threat with changes in vulnerability for ships and port facilities through determination of appropriate security levels and corresponding security measures. The ISPS Code takes the approach that ensuring the security of ships and port facilities is a risk management activity and that, to determine what security measures are appropriate, an assessment of the risks must be made in each case (IMO, 2024e).

The Brazilian Navy has initiated a Law-and-Order Guarantee Operation (GLO) at the Port of Santos to enhance security and combat drug and weapons trafficking. A total of 535 military personnel is conducting preventive and repressive actions, including searches of personnel and vehicles. The operation utilises high-tech equipment like sensors, radars, and thermal imaging cameras to improve surveillance and detection capabilities (SeaWaves, 2023).

Relevant warning signage is provided at the Port of Santos. Containers are placarded in accordance with the requirements of the IMDG Code labelling requirements displaying the relevant warning and safety detail.

All gates at the terminal are under surveillance and protected, with the terminal area enclosed by fences. Terminal gates are guarded and monitored, and the terminal borderline is fenced. If access to the wharf area is required, prior authorisation from Companhia Docas do Estado de Sao Paulo (CODESP) is necessary to access a secondary gate patrolled by Santos Port Guard. Under the authority of CODESP, the Port Guard is responsible for security and property surveillance. Their duties extend to public port security measures, access control for people, vehicles, and cargo, internal traffic management, and the prevention and suppression of illegal activities. Access control is implemented through 37 gates spread across the port docks, along with 16 additional surveillance points outside the designated restricted areas (LogisticsCluster, 2024b).

Transport Practice 3.1: Prepare detailed emergency response plans for potential cyanide releases

The port of Santos is certified under the IMO's International Convention on Oil Pollution Preparedness, Response and Cooperation 1990 (OPRC 90). States which are party to OPRC 90 protocol are required to establish a national system for responding to oil and hazardous/noxious substances pollution incidents, including a designated national authority, a national operational contact point and a national contingency plan. This needs to be supported by a minimum level of response equipment, communications plans, regular training and exercises (ITOPF, 2018).

The Federal Environmental Agency is the competent authority and administers the National Contingency Plan (NCP) for dealing with pollution by oil and other noxious substances in marine and freshwater environments.

Environmental Law No. 9966 establishes the national rules regarding oil spills and other harmful substances. The law provides for the prevention, control and monitoring of pollution caused by the release of oil and other harmful or dangerous substances in waters under national jurisdiction (Brazilian NR, 2024).This law requires each privately operated terminal to formulate an Individual Emergency Program (Programa de Emergência Individual PEI) that is fit for the individual demands and cargo requirements. This program seeks to provide a quick response in case of accidents, protecting both the environment and the port facilities.

Conclusion

Based on the evidence reviewed, this due diligence did not find significant issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work; rather it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

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B45 Port of Shanghai, China

23 February 2024

PS211281 045. RevA

Author: Lilly Kelly   Approved: Rudi Seebach

Port due diligence executive summary

WSP Pty Ltd (WSP) conducted a due diligence of Shanghai, China during February 2024 on behalf of Orica Australia Pty Ltd (Orica).

The assessment was reviewed by Rudi Seebach, who meets the International Cyanide Management Institute's (ICMI) requirements for a Transport Technical Specialist.

The following items, as detailed in the ICMI's Auditor Guidance for Use of Cyanide Transportation Verification Protocol (ICMI 2021), were addressed within the due diligence:

- Transport Practice 1.1 (Questions 1-4 and 6)
- Transport Practice 1.5 (Question 1)
- Transport Practice 1.6
- Transport Practice 2.1
- Transport Practice 3.1.

The ICMI's *Auditor Guidance for Use of Cyanide Transportation Verification Protocol* (ICMI 2021) was used to conduct the due diligence assessment. It was not possible during this due diligence to physically inspect operations, as such the review was based on information obtained from previous due diligence reviews, ICMI audit reports and publicly available online information. Based on the evidence reviewed, this due diligence did not find issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work. Instead, it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

Overview of the Port of Shanghai, China

Shanghai International Port Group (SIPG) is the operator of public terminals in the Port of Shanghai and is a large-scale specialised conglomerate established in 2003 (WSP Australia Pty Ltd, 2023).

The Port of Shanghai is located near the city of Shanghai and includes both a deep seaport and river port (ShipHub, 2024). It is situated in the middle of the Chinese coastline, where the Yangtse River flows into the sea and covers an area of over 3,500 square kilometres. It is the largest seaport in the world and is operated by Shanghai International Port (Group) Co Ltd (SIPG). The port has 125 ports and 19 terminals (ShipHub, 2024). The port can receive the largest container ships in the world due to its lifts that can bear more than 100 tons, and they have an array crane that are fixed, mobile and floating.

There are three main container port areas, Wusongkou, Waigaoqiao and Yangshan, which have a combined quay length of more than 13 kilometres (8 miles), 43 berths and 156 container cranes. The port has two bulk cargo terminals and three break-bulk terminals located in Longwu, Luojing and Wusong (Sun, 2022). The port handles mainly coal, metal-ore, petroleum and petroleum products, steal, and machinery and equipment

ICMC transport verification protocol assessment

Transport Practice 1.1: Select cyanide transport routes to minimise the potential for accidents and releases

Orica uses reputable shipping lines for the transportation of sodium cyanide manufactured by Orica or manufactured by third parties on behalf of Orica (Orica, 2024a).

Orica's Sodium Cyanide Transport Management protocol (Orica, 2024a) states that all routes used for sodium cyanide transport must undergo a risk assessment to determine their suitability. If multiple routes are available, each one requires an individual risk assessment. These assessments are conducted in accordance with the Route Risk Assessment (Orica, 2024c) and AS 4360:2004 Risk Management standards. Any risks identified as "extreme" must be prioritised and addressed through the development of an action plan to mitigate these risks as much as possible. The process for documenting the risks associated with selected routes is outlined in the Route Risk Assessment (Orica, 2024c).

Feedback regarding the routes is taken into consideration and forwarded to the Health, Safety & Environment (HS&E) Officer for the necessary updates to the route assessment. This information is also shared with the Orica representative in the relevant region (Orica, 2024a).

In situations where special safety measures or concerns are present, or where escorts are required, compliance with SUP-GLO-PRO-024 is mandatory. Additionally, Carrier Safety Programs should align with the requirements of SUP-GLO-PRO-005 (Orica, 2024a).

The port of Shanghai is situated in the middle of the Chinese coastline. Internally, waterways, road, and railway transportation networks are conveniently located to the Shanghai port. The transport networks stretch to the Yangtze River Basin and even the whole country. Externally, the port is close to the global routes. It is serviced by shipping companies that have routes to over 200 countries.

Transport Practice 1.5: Follow international standards for transportation of cyanide by sea

Orica's manufacturing facility and transfer stations are ICMC certified, therefore, sodium cyanide is packaged and transported in accordance with international regulatory standards and in line with all requirements of the International Maritime Dangerous Goods Code (IMDG) and the current versions of the United Nations Dangerous Goods Transport Guidelines, the Australian Code for the Transport of Dangerous Goods by Road and Rail and the International Maritime Dangerous Goods Code (Orica, 2024a).

Carriers are required to provide manifest documentation, to satisfy local customs regulations and the requirements of the International Maritime Dangerous Goods (IMDG) Code (IMO, 2024b), to the destination port. The manifest should contain a list of the cargo types and in the case of sodium cyanide and any other hazardous cargo the quantity, unique packaging numbers, stowage reference and emergency response procedures. Assessment of transportation agencies is via the Orica Carrier Assessment Questionnaire found in SUP-GLO-PRO-016, which enables a self-assessment and external assessment. A scoring system is included in this assessment process with minimum standards detailed (Orica, 2024a).

China is an International Maritime Organization (IMO) Member State (1973) (IMO, Member States, 2024a)and a Safety of Life at Sea (SOLAS) Signatory Nation (1974) (ICSLAS, 2024) thereby requiring the Port of Shanghai to adhere to the international regulations for the transportation and handling of dangerous goods as set out in the International Maritime Dangerous Goods Code (Parts 4, 5 and 7) (IMO, 2024b)& (IMO, 2024c).

Transport Practice 1.6: Track cyanide shipments to prevent losses during transport

The Dispatch Centre organises ship movements, tracks pilotage operations, and supervises terminal operations via real-time closed-circuit television (CCTV) monitoring (WSP Australia Pty Ltd, 2023).

Chain of custody documentation is used by shipping companies to prevent the loss of cargo during shipment. This documentation includes the vessel manifest which identifies the location and content of each container on the vessel along with packing certificates, Multimodal Dangerous Goods Forms and Safety Data Sheets (SDS) (WSP Australia Pty Ltd, 2023).

Transport Practice 2.1: Store cyanide in a manner that minimises the potential for accidental releases

Shipping containers containing composite intermediate bulk containers (IBCs) are placarded in accordance with the IMDG Code labelling requirements displaying relevant warning and safety information including the environmentally hazardous substance label. Signage prohibiting smoking, open flames and eating and drinking are in place, as well as PPE requirements (WSP Australia Pty Ltd, 2023).

The port of Shanghai has a dedicated dangerous goods transit area for dangerous goods awaiting loading to arriving vessels. Appropriate signage is displayed in this area, as required by IMDG codes. The port operations for dangerous goods are registered and licensed by the government. The port has in place minimum requirements for personal protective equipment that includes the requirements for suitable protective footwear, safety helmet where required and readily visible clothing (WSP Australia Pty Ltd, 2023).

The port is listed on the International Ship and Port Facility Security (ISPS) site as accredited. An electronic card access system is in place to enable only authorised access to the port area. Containers departing the port are checked against documentation for matching container numbers and product detail.

All sodium cyanide transited through the Port of Shanghai remains contained within its sealed containers at all times and are placed in an area that is well ventilated to prevent the build-up of hydrogen cyanide gas. The area where the containers are placed is considered suitable to effectively contain any spillage that may happen (WSP Australia Pty Ltd, 2023).

The port took several measures to enhance the management of dangerous goods, such as the followings:

- Inspecting the licenses of operators and equipment
- Inspecting and replenishing the emergency supplies
- Inspecting and maintaining the fire protection equipment, CCTV, and fence for dangerous goods
- Training staff involving dangerous goods on emergency equipment using, and
- Conducting emergency drills.

Transport Practice 3.1: Prepare detailed emergency response plans for potential cyanide releases

China has been a member State of the IMO Council since 1973, it complies with the requirements of the IMDG Code.

The port of Shanghai is certified under the IMO's International Convention on Oil Pollution Preparedness, Response and Cooperation 1990 (OPRC 90). States which are party to OPRC 90 protocol are required to establish a national system for responding to oil and hazardous/noxious substances pollution incidents, including a designated national authority, a national operational contact point and a national contingency plan. This needs to be supported by a minimum level of response equipment, communications plans, regular training and exercises (ITOPF, 2024).

The China Maritime Safety Administration (MSA) requires the operator of any ship carrying polluting and hazardous liquid cargoes in bulk and any other vessel over 10,000 GT must have a pollution clean-up contract with an approved ship pollution response organisation (SPRO) before the vessel enters a Chinese port. China MSA set up the Yantai Oil Spill Response Technical Center in 2006. This houses an equipment stockpile and provides emergency response, technical expertise, oil fingerprinting, spill surveillance and forecasting, and training. There are also large response vessels based in key locations along the coast however the requirements place the responsibility for response largely in the hands of the operators of the ships (ITOPF, 2024).

The port of Shanghai has facility specific emergency response plans indicating that the port has an internal emergency response capability that can provide basic response to incidents involving dangerous goods. According to the 2015 Sustainable Development Report of SIPG, the port has arranged emergency drills on emergency equipment usage and dangerous goods leakage for all related operating personnel and administrative staff.

The MSA is responsible for the co-ordination of response to HNS at sea. A National Contingency Plan for Hazardous and Noxious Substance incidents exists as an extension of the National Oil Spill Contingency Plan (ITOPF, 2024).

Conclusion

Based on the evidence reviewed, this due diligence did not find significant issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work; rather it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

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B46 Port of Sihanoukville, Cambodia

1 March 2024
PS211281 046. RevA

Author: Megan Wood Approved: Rudi Seebach

Port due diligence executive summary

WSP Pty Ltd (WSP) conducted a due diligence of the Port of Sihanoukville during arch 2024, on behalf of Orica Australia Pty Ltd (Orica).

The assessment was reviewed by Rudi Seebach, who meets the International Cyanide Management Institute’s (ICMI) requirements for a Transport Technical Specialist.

The following items, as detailed in the ICMI’s Auditor Guidance for Use of Cyanide Transportation Verification Protocol (ICMI, 2021), were addressed within the due diligence:

- Transport Practice 1.1 (Questions 1-4 and 6)
- Transport Practice 1.5 (Question 1)
- Transport Practice 1.6
- Transport Practice 2.1
- Transport Practice 3.1.

The ICMI’s *Auditor Guidance for Use of Cyanide Transportation Verification Protocol, June 2021* (ICMI, 2021) was used to conduct the due diligence assessment. It was not possible during this due diligence to physically inspect operations, as such the review was based on information obtained from previous due diligence reviews, ICMI audit reports and publicly available online information. Based on the evidence reviewed, this due diligence did not find issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work. Instead, it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

Overview of the Port of Sihanoukville, Cambodia

The Port of Sihanoukville is in Preah Sihanouk Province in the southwest of Cambodia and is the sole deep-sea international port for the country (PAS, 2024a). The port is situated in the Bay of Kompong Som and has natural advantages from a string of islands which protects it from strong winds and tidal waves and the location does not require dredging of the navigational channels. The port has 8 Berths and a tanker terminal naturally protected from winds through islands and a constructed breakwater. There is a container terminal with a combined 155,000 m^2 capacity. The port’s main services include navigation, cargo handling, cargo storage and warehousing, transport, special economic zone, and they are a logistics supply base for offshore exploration (PAS, 2024b).

To safeguard and improve vessel management, the installation of Vessel Traffic Management System (VTMS), navigational buoys and maintenance of vessel channels has been carried out. A Container Terminal Management System for container management, yard and vessel planning, and container offloading has been installed (PAS, 2024c). Available safety and security features include equipment such as X-ray and Gamma-ray container scans, closed-circuit television (CCTV) cameras, emergency response personnel, boat patrols, a radiation portal monitor, and medical and ambulance capabilities are available (PAS, 2024d).

ICMC transport verification protocol assessment

Transport Practice 1.1: Select cyanide transport routes to minimise the potential for accidents and releases

Orica uses reputable shipping lines for the transportation of sodium cyanide manufactured by Orica or manufactured by third parties on behalf of Orica (Orica, 2024a).

Orica's Sodium Cyanide Transport Management protocol (Orica, 2024a) states that all routes used for sodium cyanide transport must undergo a risk assessment to determine their suitability. If multiple routes are available, each one requires an individual risk assessment. These assessments are conducted in accordance with the Route Risk Assessment (Orica, 2024c) and AS 4360:2004 Risk Management standards. Any risks identified as "extreme" must be prioritised and addressed through the development of an action plan to mitigate these risks as much as possible. The process for documenting the risks associated with selected routes is outlined in the Route Risk Assessment (Orica, 2024c).

Feedback regarding the routes is taken into consideration and forwarded to the Health, Safety & Environment (HS&E) Officer for the necessary updates to the route assessment. This information is also shared with the Orica representative in the relevant region (Orica, 2024a).

In situations where special safety measures or concerns are present, or where escorts are required, compliance with SUP-GLO-PRO-024 is mandatory. Additionally, Carrier Safety Programs should align with the requirements of SUP-GLO-PRO-005 (Orica, 2024a).

Transport Practice 1.5: Follow international standards for transportation of cyanide by sea

Orica's manufacturing facility and transfer stations are ICMC certified, therefore, sodium cyanide is packaged and transported in accordance with international regulatory standards and in line with all requirements of the International Maritime Dangerous Goods Code (IMDG) and the current versions of the United Nations Dangerous Goods Transport Guidelines, the Australian Code for the Transport of Dangerous Goods by Road and Rail and the International Maritime Dangerous Goods Code (Orica, 2024a).

Carriers are required to provide manifest documentation, to satisfy local customs regulations and the requirements of the International Maritime Dangerous Goods (IMDG) Code (IMO, 2024b), to the destination port. The manifest should contain a list of the cargo types and in the case of sodium cyanide and any other hazardous cargo the quantity, unique packaging numbers, stowage reference and emergency response procedures. Assessment of transportation agencies is via the Orica Carrier Assessment Questionnaire found in SUP-GLO-PRO-016, which enables a self-assessment and external assessment. A scoring system is included in this assessment process with minimum standards detailed (Orica, 2024a).

Cambodia is an International Maritime Organization (IMO) Member State (1961) (IMO, Member States, 2024a) and a Safety of Life at Sea (SOLAS) Signatory Nation (1974) (ICSLAS, 2024) thereby requiring the Port of Sihanoukville to adhere to the international regulations for the transportation and handling of dangerous goods as set out in the International Maritime Dangerous Goods Code (Parts 4, 5 and 7) (IMO, 2024b)& (IMO, 2024c).

Transport Practice 1.6: Track cyanide shipments to prevent losses during transport

The port has implemented a Container Terminal Management System (CTMS) for container management, offloading, yard and vessel planning. As a member of the IMO**,** vessels are also required to declare dangerous cargo before arriving/leaving the Port (IMO, Member States, 2024a). Chain of custody documentation is used by shipping companies to prevent the loss of cargo during shipment. This documentation includes the vessel manifest which identifies the location and content of each container on the vessel along with packing certificates, Multimodal Dangerous Goods Forms and Safety Data Sheets (SDS).

Transport Practice 2.1: Store cyanide in a manner that minimises the potential for accidental releases

In general, port and vessel security are managed through the International Ship and Port Facility Security Code (ISPS Code). The ISPS Code is a comprehensive set of measures to enhance security of ships and port facilities (WSP Australia Pty Ltd, 2023).

The purpose of the ISPS Code is to provide a standardised, consistent framework for evaluating risk, enabling Governments to offset changes in threat with changes in vulnerability for ships and port facilities through determination of appropriate security levels and corresponding security measures. The ISPS Code takes the approach that ensuring the security of ships and port facilities is a risk management activity and that, to determine what security measures are appropriate, an assessment of the risks must be made in each particular case (IMO, SOLAS XI-2 and the ISPS Code, 2024).To safeguard vessel management the installation of Vessel Traffic Management System, navigational buoys and maintenance of vessel channels were installed (PAS, 2024c).

Transport Practice 3.1: Prepare detailed emergency response plans for potential cyanide releases

Cambodia has been a member state of IMO since 1961 (IMO, 2024c) and it complies with the requirements of the IMDG code. The product transferred through the port remain sealed within the containers which significantly reduces the potential for a cyanide release scenario and the product must be transported out of the port operational area upon discharge. Accordingly, it is considered likely that Orica will need to provide technical assistance, advice and potentially deploy resources in the unlikely event of that a cyanide release scenario at the port.

Conclusion

Based on the evidence reviewed, this due diligence did not find significant issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work; rather it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

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B47	**Port of Singapore, Singapore**		6 March 2024
			PS211281 047. RevA
Author:	Megan Wood	Approved:	Rudi Seebach

Port due diligence executive summary

WSP Pty Ltd (WSP) conducted a due diligence of the Port of Singapore, Singapore during March 2024 on behalf of Orica Australia Pty Ltd (Orica).

The assessment was reviewed by Rudi Seebach who meets the International Cyanide Management Institute's (ICMI) requirements for a Transport Technical Specialist.

The following items, as detailed in the ICMI's Auditor Guidance for Use of Cyanide Transportation Verification Protocol (ICMI 2021), were addressed within the due diligence:

- Transport Practice 1.1 (Questions 1-4 and 6)
- Transport Practice 1.5 (Question 1)
- Transport Practice 1.6
- Transport Practice 2.1
- Transport Practice 3.1.

The ICMI's *Auditor Guidance for Use of Cyanide Transportation Verification Protocol* (ICMI 2021) was used to conduct the due diligence assessment. It was not possible during this due diligence to physically inspect operations, as such the review was based on information obtained from previous due diligence reviews, ICMI audit reports and publicly available online information. Based on the evidence reviewed, this due diligence did not find issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work. Instead, it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

Overview of the Port of Singapore, Singapore

Singapore Port is situated at the southern tip of the Malay Peninsula, 30 kilometres southwest of Johor Port in Malaysia. It stands as the world's busiest container transhipment hub and the largest publicly owned port, providing connections to over 600 ports across 123 countries. The port is well-equipped with six terminals and eighty-four berths, offering a variety of services for break bulk and specialised cargoes. Its facilities enable the handling of containers and various types of cargo, including bulk, break-bulk, and project cargo (Seabay Logistics, 2024).

In 2023, Singapore's annual vessel arrival tonnage exceeded 3 billion Gross Tonnage, maintaining its position as the world's busiest transshipment hub with a total container throughput of 39.0 million twenty-foot equivalent units (TEUs) (MPA Singapore, 2024).

The Port of Singapore is made up of various facilities and terminals that manage a diverse range of cargo in different forms, including containers and conventional and bulk cargo. MPA oversees the comprehensive development and expansion of the Port of Singapore, which includes terminal operators such as PSA Corporation and Jurong Port Pte Ltd (MPA Singapore, 2024).

The Maritime and Port Authority (MPA) of Singapore assumes multiple roles including port authority, maritime and port regulator and planner, advocate for international maritime centres, national maritime representative, and promoter of digitalisation and decarbonisation initiatives at regional and international platforms like the International Maritime Organization (MPA Singapore, 2024).

ICMC transport verification protocol assessment

Transport Practice 1.1: Select cyanide transport routes to minimise the potential for accidents and releases

Orica uses reputable shipping lines for the transportation of sodium cyanide manufactured by Orica or manufactured by third parties on behalf of Orica (Orica, 2024a).

Orica's Sodium Cyanide Transport Management protocol (Orica, 2024a) states that all routes used for sodium cyanide transport must undergo a risk assessment to determine their suitability. If multiple routes are available, each one requires an individual risk assessment. These assessments are conducted in accordance with the Route Risk Assessment (Orica, 2024c) and AS 4360:2004 Risk Management standards. Any risks identified as "extreme" must be prioritised and addressed through the development of an action plan to mitigate these risks as much as possible. The process for documenting the risks associated with selected routes is outlined in the Route Risk Assessment (Orica, 2024c).

Feedback regarding the routes is taken into consideration and forwarded to the Health, Safety & Environment (HS&E) Officer for the necessary updates to the route assessment. This information is also shared with the Orica representative in the relevant region (Orica, 2024a).

In situations where special safety measures or concerns are present, or where escorts are required, compliance with SUP-GLO-PRO-024 is mandatory. Additionally, Carrier Safety Programs should align with the requirements of SUP-GLO-PRO-005 (Orica, 2024a).

Transport Practice 1.5: Follow international standards for transportation of cyanide by sea

Orica's manufacturing facility and transfer stations are ICMC certified, therefore, sodium cyanide is packaged and transported in accordance with international regulatory standards and in line with all requirements of the International Maritime Dangerous Goods Code (IMDG) and the current versions of the United Nations Dangerous Goods Transport Guidelines, the Australian Code for the Transport of Dangerous Goods by Road and Rail and the International Maritime Dangerous Goods Code (Orica, 2024a).

Carriers are required to provide manifest documentation, to satisfy local customs regulations and the requirements of the International Maritime Dangerous Goods (IMDG) Code (IMO, 2024b), to the destination port. The manifest should contain a list of the cargo types and in the case of sodium cyanide and any other hazardous cargo the quantity, unique packaging numbers, stowage reference and emergency response procedures. Assessment of transportation agencies is via the Orica Carrier Assessment Questionnaire found in SUP-GLO-PRO-016, which enables a self-assessment and external assessment. A scoring system is included in this assessment process with minimum standards detailed (Orica, 2024a).

Singapore is an International Maritime Organization (IMO) Member State (1966) (IMO, 2024) and a Safety of Life at Sea (SOLAS) Signatory Nation (1974) (IMO, 2024c) thereby requiring the Port of Singapore to adhere to the international regulations for the transportation and handling of dangerous goods as set out in the International Maritime Dangerous Goods Code (Parts 4, 5 and 7) (IMO, 2024b) & (IMO, 2024c).

Transport Practice 1.6: Track cyanide shipments to prevent losses during transport

The port of Singapore has policies and measures in place that comply with the International Ship and port Facility Security (ISPS) Code.

Chain of custody documentation is used by shipping companies to prevent the loss of cargo during shipment. This documentation includes the vessel manifest which identifies the location and content of each container on the vessel along with packing certificates, Multimodal Dangerous Goods Forms and Safety Data Sheets.

As a SOLAS signatory nation, it is obligated to transmit Long-Range Identification and Tracking (LRIT) information. This system provides global identification and tracking of ships for security, safety, and protection of marine environment (IMO, 2024c).

The Maritime and Port Authority (MPA) has designated Recognised Security Organisations (RSOs) to approve Ship Security Plans and issue International Ship Security Certificates for Singapore-flagged ships. Additionally, these RSOs assist the MPA in conducting security assessments and in the creation or endorsement of Port Facility Security Plans for Singapore port facilities (MPA Singapore, 2024). In addition, ships report under IMO-adopted Mandatory Ship Reporting System (STRAITREP) to Singapore's Vessel Traffic Information System (VTIS), operated by MPA.

Transport Practice 2.1: Store cyanide in a manner that minimises the potential for accidental releases

In general, port and vessel security are managed through the International Ship and Port Facility Security Code (ISPS Code). The ISPS Code is a comprehensive set of measures to enhance security of ships and port facilities (IMO, SOLAS XI-2 and the ISPS Code, 2024).

The purpose of the ISPS Code is to provide a standardised, consistent framework for evaluating risk, enabling Governments to offset changes in threat with changes in vulnerability for ships and port facilities through determination of appropriate security levels and corresponding security measures. The ISPS Code takes the approach that ensuring the security of ships and port facilities is a risk management activity and that, to determine what security measures are appropriate, an assessment of the risks must be made in each case.

Transport Practice 3.1: Prepare detailed emergency response plans for potential cyanide releases

The port of Singapore is certified under the IMO's International Convention on Oil Pollution Preparedness, Response and Cooperation 1990 (United Nations, 1995). States which are party to OPRC 90 protocol are required to establish a national system for responding to oil and hazardous/noxious substances pollution incidents, including a designated national authority, a national operational contact point and a national contingency plan. This needs to be supported by a minimum level of response equipment, communications plans, regular training and exercises.

An Oil Spill Contingency Plan was developed by the MPA as a supplement to the Marine Emergency Action Plan (MEAP) (ITOPF, 2024). Singapore's Chemical Contingency Plan (Marine) is a supplement to the MEAP and was developed by the MPA with the participation of governmental agencies (such as the NEA and the Singapore Civil Defence Force) and the Marine Terminal Emergency Response Committee (MTERC) of the Singapore Chemical Industry Council (SCIC). MPA Marine Emergency Officers are trained in HNS response and have access to CHEMWATCH, a Safety Data Sheets (SDS) database. All chemical tankers arriving in Singapore are required to provide an advance report containing details of the chemicals they are carrying to the MPA (ITOPF, 2024).

Conclusion

Based on the evidence reviewed, this due diligence did not find significant issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work; rather it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

References

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B48 Port of Surabaya, Indonesia

8 March 2024

PS211281 048. RevA

Author: Megan Wood Approved: Rudi Seebach

Port due diligence executive summary

WSP Pty Ltd (WSP) conducted a due diligence of Surabaya, Indonesia during March 2024 on behalf of Orica Australia Pty Ltd (Orica).

The assessment was reviewed by Rudi Seebach, who meets the International Cyanide Management Institute's (ICMI) requirements for a Transport Technical Specialist.

The following items, as detailed in the ICMI's Auditor Guidance for Use of Cyanide Transportation Verification Protocol (ICMI 2021), were addressed within the due diligence:

- Transport Practice 1.1 (Questions 1-4 and 6)
- Transport Practice 1.5 (Question 1)
- Transport Practice 1.6
- Transport Practice 2.1
- Transport Practice 3.1.

The ICMI's *Auditor Guidance for Use of Cyanide Transportation Verification Protocol* (ICMI 2021) was used to conduct the due diligence assessment. It was not possible during this due diligence to physically inspect operations, as such the review was based on information obtained from previous due diligence reviews, ICMI audit reports and publicly available online information. Based on the evidence reviewed, this due diligence did not find issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work. Instead, it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

Overview of the Port of Surabaya, Indonesia

Surabaya Port, also known as Tanjung Perak (TPS), is located on the north shore of eastern Java Province, Indonesia. It is situated at the mouth of the Mas River in the Strait of Madura, near Tuban and Camar Marine Terminals. As the second busiest seaport in Indonesia, it plays a strategic role in inter-island shipping for Eastern Indonesia due to its advantageous location and surrounding hinterlands. The port is equipped with dock facilities that can accommodate both domestic and international cruises (Seabay Logistics, 2024).

The location of TPS is very strategic as it connects directly to the Surabaya toll way and the railway network into East Java and Eastern Indonesia (WSP Australia Pty Ltd, 2023).

The port has 4 main terminals, consisting of multi-purpose terminals for conventional cargo handling, a passenger terminal, RoRo and an international container terminal. Tugging, pilotage, bunker, storage and shipyard services are also provided (WSP Australia Pty Ltd, 2023).

The port of TPS is managed by the PT Pelabuhan Indonesia (Pelindo) III Cabang Tanjung Perak. PT Berlian Terminal Services Indonesia (PT BJTI), a subsidiary of PT Pelabuhan Indonesia III (Limited), operates as a port service provider (LogisticsCluster, 2024a). Their offerings include:

- Management of General Cargo
- Liquid Bulk Goods Handling
- Coal Handling
- Terminal RO-RO Car Carrier Cargo Services
- Container Yard (CY) Services
- Comprehensive Forwarding Services

ICMC transport verification protocol assessment

Transport Practice 1.1: Select cyanide transport routes to minimise the potential for accidents and releases

Orica uses reputable shipping lines for the transportation of sodium cyanide manufactured by Orica or manufactured by third parties on behalf of Orica (Orica, 2024a).

Orica's Sodium Cyanide Transport Management protocol (Orica, 2024a) states that all routes used for sodium cyanide transport must undergo a risk assessment to determine their suitability. If multiple routes are available, each one requires an individual risk assessment. These assessments are conducted in accordance with the Route Risk Assessment (Orica, 2024c) and AS 4360:2004 Risk Management standards. Any risks identified as "extreme" must be prioritised and addressed through the development of an action plan to mitigate these risks as much as possible. The process for documenting the risks associated with selected routes is outlined in the Route Risk Assessment (Orica, 2024c).

Feedback regarding the routes is taken into consideration and forwarded to the Health, Safety & Environment (HS&E) Officer for the necessary updates to the route assessment. This information is also shared with the Orica representative in the relevant region (Orica, 2024a).

In situations where special safety measures or concerns are present, or where escorts are required, compliance with SUP-GLO-PRO-024 is mandatory. Additionally, Carrier Safety Programs should align with the requirements of SUP-GLO-PRO-005 (Orica, 2024a).

The location of TPS is very strategic as it connects directly to the Surabaya toll way and the railway network into East Java and Eastern Indonesia.

Transport Practice 1.5: Follow international standards for transportation of cyanide by sea

Orica's manufacturing facility and transfer stations are ICMC certified, therefore, sodium cyanide is packaged and transported in accordance with international regulatory standards and in line with all requirements of the International Maritime Dangerous Goods Code (IMDG) and the current versions of the United Nations Dangerous Goods Transport Guidelines, the Australian Code for the Transport of Dangerous Goods by Road and Rail and the International Maritime Dangerous Goods Code (Orica, 2024a).

Carriers are required to provide manifest documentation, to satisfy local customs regulations and the requirements of the International Maritime Dangerous Goods (IMDG) Code (IMO, 2024b), to the destination port. The manifest should contain a list of the cargo types and in the case of sodium cyanide and any other hazardous cargo the quantity, unique packaging numbers, stowage reference and emergency response procedures. Assessment of transportation agencies is via the Orica Carrier Assessment Questionnaire found in SUP-GLO-PRO-016, which enables a self-assessment and external assessment. A scoring system is included in this assessment process with minimum standards detailed (Orica, 2024a).

Indonesia is an International Maritime Organization (IMO) Member State (1961) (IMO, 2019) and a Safety of Life at Sea (SOLAS) Signatory Nation (1974) (ICSLAS, 2024) thereby requiring the Port of Surabaya to adhere to the international regulations for the transportation and handling of dangerous goods as set out in the International Maritime Dangerous Goods Code (Parts 4, 5 and 7) (IMO, 2024b)& (IMO, 2024c).

Transport Practice 1.6: Track cyanide shipments to prevent losses during transport

TPS operates a dedicated container terminal, handling both domestic and international container traffic, and offering transportation services. They currently hold several certifications including International Standards Organization (ISO) 9001 for Quality Standard, ISO 14001 for Environmental Standard, OHSAS 18001 for Occupational Health & Safety, International Ship and Port Facility Security (ISPS) Code for Vessel Safety and Port Facilities Standard, C-TPAT Certificate, and ISO 28000:2007 for Security Management System for Supply Chain (Logistics Cluster, 2024e).

The Dispatch Centre organises ship movements, tracks pilotage operations, and supervises terminal operations via real-time closed-circuit television (CCTV) monitoring (WSP Australia Pty Ltd, 2023).

Chain of custody documentation is used by shipping companies to prevent the loss of cargo during shipment. This documentation includes the vessel manifest which identifies the location and content of each container on the vessel along with packing certificates, Multimodal Dangerous Goods Forms and Safety Data Sheets (SDS) (WSP Australia Pty Ltd, 2023).

Transport Practice 2.1: Store cyanide in a manner that minimises the potential for accidental releases

The port and vessel security are managed through the International Ship and Port Facility Security Code (ISPS Code). The ISPS Code is a comprehensive set of measures to enhance security of ships and port facilities.

The purpose of the ISPS Code is to provide a standardised, consistent framework for evaluating risk, enabling Governments to offset changes in threat with changes in vulnerability for ships and port facilities through determination of appropriate security levels and corresponding security measures (IMO, SOLAS XI-2 and the ISPS Code, 2024). The ISPS Code takes the approach that ensuring the security of ships and port facilities is a risk management activity and that, to determine what security measures are appropriate, an assessment of the risks must be made in each case.

The port operates under a suite of National regulations that ensure compliance with the above. For the handling and storage of dangerous goods, these regulations ensure that shipments of cyanide are authorised for discharge from the vessel, handled by appropriately trained personnel, stored in designated and secured areas, segregated according to dangerous goods classes, and removed from the port in a timely manner. As per the ‘Regulation of the Minister of Trade No. 7 of 2022’, regarding the distribution and control of hazardous substances, consignors for the distribution of certain hazardous substance and are required to obtain a permit to handle hazardous goods and must report the distribution results to the regulatory authority (Aoki Kenji, 2022).

The port has restricted access, and the Dispatch Centre organises ship movements, tracks pilotage operations, and supervises terminal operations via real-time CCTV monitoring. All sodium cyanide transited through the Port of Jakarta always remains sealed within containers (WSP Australia Pty Ltd, 2023).

Transport Practice 3.1: Prepare detailed emergency response plans for potential cyanide releases

Indonesia has been a Member State of the IMO State Member since 1961 (IMO, Member States, 2024a) and complies with the requirements of the IMDG Code (IMO, 2024b). The Indonesian Government also has national standards in place for the transportation, handling and storage of hazardous substances. In addition, they are part of the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW), and comply with the requirements of IMDG code and STCW emergency, occupational safety, medical care and survival functions (IMO, 1978).

Indonesia is certified under the International Convention on Oil Pollution Preparedness, Response and Cooperation, 1990 (OPRC 90) (United Nations, 1995). States which are party to OPRC 90 are required to establish a national system for responding to oil and hazardous/noxious substances pollution incidents, including a designated national authority, a national operational contact point and a national contingency plan. This needs to be supported by a minimum level of response equipment, communications plans, and regular training and exercises (ITOPF, 2024).

Indonesia's National Oil Spill Contingency Plan (NOSCP) extends to hazardous and noxious substances (HNS). In the event of an emergency, the National Team for Oil Spill Response would provide the technical expertise, with input from other institutions, government departments, the private sector and other non-government organisations. The National Team through its Command and Control Centre would carry out the response, using personnel, equipment and materials belonging to its member organisations in the vicinity of the emergency incident (ITOPF, 2024).

The Directorate General of Sea Transportation (DGST) is the competent authority and administers the Plan for dealing with pollution by oil and other noxious substances in marine and freshwater environments. The DGST has equipment which could be utilised for HNS spills and is supported by further equipment from the oil industry (ITOPF, 2024).

Conclusion

Based on the evidence reviewed, this due diligence did not find significant issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work; rather it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

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B49 Port of Takoradi, Ghana

29 February 2024

PS211281 049. RevA

Author: Megan Wood Approved: Rudi Seebach

Port due diligence executive summary

WSP Pty Ltd (WSP) conducted a due diligence of Takoradi, Ghana during February 2024 on behalf of Orica Australia Pty Ltd (Orica).

The assessment was reviewed by Rudi Seebach, who meets the International Cyanide Management Institute's (ICMI) requirements for a Transport Technical Specialist.

The following items, as detailed in the ICMI's Auditor Guidance for Use of Cyanide Transportation Verification Protocol (ICMI 2021), were addressed within the due diligence:

- Transport Practice 1.1 (Questions 1-4 and 6)
- Transport Practice 1.5 (Question 1)
- Transport Practice 1.6
- Transport Practice 2.1
- Transport Practice 3.1.

The ICMI's Auditor Guidance for Use of Cyanide Transportation Verification Protocol (ICMI 2021) was used to conduct the due diligence assessment. It was not possible during this due diligence to physically inspect operations, as such the review was based on information obtained from previous due diligence reviews, ICMI audit reports and publicly available online information. Based on the evidence reviewed, this due diligence did not find issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work. Instead, it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

Overview of the Port of Takoradi, Ghana

The port of Takoradi is located 230 kilometres east of Accra (Logistics Cluster, 2024d).Takoradi is strategically positioned to service the northern hinterland of Ghana and serve as an alternative port for economic operators in the landlocked countries of Burkina Faso, Niger and Mali (Logistics Cluster, 2024d).Takoradi Port is the main export port, handling 65% of total exports with about 600 vessels visiting annually. The main exports include cocoa, timber, bauxite and manganese (Seabay Logisitics, 2024). All vessels entering the port are fully handled by the Marine Operations Department and solely the responsibility of Ghana Ports and Harbors Authority under the supervision of the Harbour Master (Logistics Cluster, 2024d).

The port stevedore department handles 25% with the remaining 75% allocated to the 5 companies licensed to operate at the port (Ghana Ports and Harbours Authority, 2024). Cargo allocations are handled by the Harbour Master. Private stevedore companies operating in the port are:

- Advance Stevedore
- Atlantic Port Services
- Golden Gate Service

- Speedline Company
- Gemini Maritime Services

Port protocols exist for docking of vessels (e.g.,, use of Pilots, use of tugboats, management of different weather conditions, tides, currents and safety and general port operations). This sees to the safe docking and turnaround of the vessels in and out of the port (WSP Australia Pty Ltd, 2023).

- The approach of the vessel to the ports will take into any account any channels, special navigation points and as mentioned above the currents, tides and weather.
- Entry into port is controlled by the port's Pilot who understands the port protocols and any unique issues regarding the approach and docking of a vessel at the port. The Ship's Captain works in conjunction with the Pilot as he understands his vessel and can implement and assist with the Pilot's instructions.
- Once a vessel is secure alongside the wharf the shipping activities changeover to port activities. The vessels manifest of what containers are required to be unloaded from the vessel, including the manifest for containers for loading are handed over. This manifest will identify hazardous cargos and their UN number and classification and segregation requirements.

Stevedoring operations include (WSP Australia Pty Ltd, 2023):

- Handling of the containers whether full or empty on and off the vessels; container storage areas for general cargo, port security, control systems for companies and their vehicles collecting and or delivering containers.
- Software programs that control container placement and movement; these software packages identify each individual container placement area in designated stacks. The input information for the placement of containers comes from the vessel's manifest.

Ghana is a member of the International Maritime Organization (IMO) Council and is party to the Abuja Memorandum of Understanding, and as such performs its Port State Obligations, supervises foreign ships that berth at Ghana ports, and promotes compliance with international conventions among Flag States through Port State Control.

GPHA operates an integrated management system in line with requirements of International Standards Organization (ISO) 9001: 2015, ISO 14001: 2015 and OHSAS 18001:2007 (The B&FT Online, 2024).

ICMC transport verification protocol assessment

Transport Practice 1.1: Select cyanide transport routes to minimise the potential for accidents and releases

Orica uses reputable shipping lines for the transportation of sodium cyanide manufactured by Orica or manufactured by third parties on behalf of Orica (Orica, 2024a).

Orica's Sodium Cyanide Transport Management protocol (Orica, 2024a) states that all routes used for sodium cyanide transport must undergo a risk assessment to determine their suitability. If multiple routes are available, each one requires an individual risk assessment. These assessments are conducted in accordance with the Route Risk Assessment (Orica, 2024c) and AS 4360:2004 Risk Management standards. Any risks identified as "extreme" must be prioritised and addressed through the development of an action plan to mitigate these risks as much as possible. The process for documenting the risks associated with selected routes is outlined in the Route Risk Assessment (Orica, 2024c).

Feedback regarding the routes is taken into consideration and forwarded to the Health, Safety & Environment (HS&E) Officer for the necessary updates to the route assessment. This information is also shared with the Orica representative in the relevant region (Orica, 2024a).

In situations where special safety measures or concerns are present, or where escorts are required, compliance with SUP-GLO-PRO-024 is mandatory. Additionally, Carrier Safety Programs should align with the requirements of SUP-GLO-PRO-005 (Orica, 2024a).

Takoradi is strategically positioned to service the northern hinterland of Ghana and serve as an alternative port for economic operators in the landlocked countries of Burkina Faso, Niger and Mali (WSP Australia Pty Ltd, 2023). The port allows for the unloading of shipments for final road transportation to the mining operations in Ghana as well as Burkina Faso and Eastern Mali.

Transport Practice 1.5: Follow international standards for transportation of cyanide by sea

Orica's manufacturing facility and transfer stations are ICMC certified, therefore, sodium cyanide is packaged and transported in accordance with international regulatory standards and in line with all requirements of the International Maritime Dangerous Goods Code (IMDG) and the current versions of the United Nations Dangerous Goods Transport Guidelines, the Australian Code for the Transport of Dangerous Goods by Road and Rail and the International Maritime Dangerous Goods Code (Orica, 2024a).

Carriers are required to provide manifest documentation, to satisfy local customs regulations and the requirements of the International Maritime Dangerous Goods (IMDG) Code (IMO, 2024b), to the destination port. The manifest should contain a list of the cargo types and in the case of sodium cyanide and any other hazardous cargo the quantity, unique packaging numbers, stowage reference and emergency response procedures. Assessment of transportation agencies is via the Orica Carrier Assessment Questionnaire found in SUP-GLO-PRO-016, which enables a self-assessment and external assessment. A scoring system is included in this assessment process with minimum standards detailed (Orica, 2024a).

Ghana is an IMO Member State (1959) (IMO, 2019) and a Safety of Life at Sea (SOLAS) Signatory Nation (1974) (ICSLAS, 2024) thereby requiring the Port of Takoradi to adhere to the international regulations for the transportation and handling of dangerous goods as set out in the International Maritime Dangerous Goods Code (Parts 4, 5 and 7) (IMO, 2024b)& (IMO, 2024c).

Transport Practice 1.6: Track cyanide shipments to prevent losses during transport

The port requires advance notice of 72 hours prior to the estimated arrival of vessels. The harbour master has oversight of nautical operations within the port, including pilotage, towage, mooring and unmooring, and vessel traffic services. Software programs control container movement through the ports.

Chain of custody documentation is used by shipping companies to prevent the loss of cargo during shipment. This documentation includes the vessel manifest which identifies the location and content of each container on the vessel along with packing certificates, Multimodal Dangerous Goods Forms and Safety Data Sheets (SDS) (WSP Australia Pty Ltd, 2023).

Port stevedores receive the vessels manifest on arrival, which includes the containers for unloading and handling by them. This information is then captured in the stevedore's management systems, which assists with the location where each container from the vessel is to be placed after unloading. Transport from the unloading berth to the interim storage facility is controlled by documentary checks detailing the container details and contents. MPS utilises a terminal operating system to manage container movement, vessel discharges and yard allocations to minimise delays. Containers are tracked using differential global positioning systems (Ghana Ports and Harbours Authority, 2024).

The clearance process at Takoradi port comprises (WSP Australia Pty Ltd, 2023):

- Declaration of cargo data on the UNIPASS-Ghana System
- Customs Document Verification, System Validation, cargo Classification and Valuation, Risk Assessment and quality assurance, payment of duty, cargo verification
- Release by the Shipping Agent
- Delivery by the port and other receipt delivery service providers
- Customs physical examination or scanning of cargo before cargo is allowed to exit the port.

Transport Practice 2.1: Store cyanide in a manner that minimises the potential for accidental releases

The port of Takoradi is accredited under the International Ship and Port Facility Security (ISPS) Code (since 2004). This is maintained by the GPHA which reports to the appropriate central Ghana government minister. The port has an on-site security presence always and includes a mobile security team. Port security personnel stationed at the access to the port check the authority of drivers accessing the port area (WSP Australia Pty Ltd, 2023).

The *Ghana Maritime Security Act (2004), Section 48 Port Security* states that a port facility operator shall develop, implement, and maintain a port facility security plan based on a port facility security assessment of that facility. The design of a port facility security plan must suit the purposes of ship-port interface and protect that facility from unauthorised access or disclosure. The Government of the Republic of Ghana has taken the decision to phase out Pre-Shipment Inspection (PSI) and to implement a Destination Inspection Scheme. Mandated by the Ministry of Trade and Industry (MOTI) regulated by the Export and Import Act, 1995 (Act 503) Export and Import (Amendment) Act, 2000 (Logistics Cluster, 2024d).

All sodium cyanide transited through the Port of Takoradi always remains sealed inside its container preventing contact with water and other incompatible materials. Seals are individually numbered and tamper evident (WSP Australia Pty Ltd, 2023).

Admission of solid sodium cyanide through the Port of Takoradi is limited to a specific customer. Solid sodium cyanide is only held at the Port of Takoradi for a short period to enable completion of specific Ghanaian governmental customs and quarantine clearances (WSP Australia Pty Ltd, 2023). Importers are penalised substantial charges should any delay in remove of the product occurs. The port provides a dedicated area for workers to eat and drink which is well away from the area in which the product is located.

Transport Practice 3.1: Prepare detailed emergency response plans for potential cyanide releases

The GPHA is responsible for the protection of property and emergency preparedness and response.

The port of Takoradi is certified under the IMO's International Convention on Oil Pollution Preparedness, Response and Cooperation 1990 (United Nations, 1995). States which are party to OPRC 90 protocol are required to establish a national system for responding to oil and hazardous/noxious substances pollution incidents, including a designated national authority, a national operational contact point and a national contingency plan. This needs to be supported by a minimum level of response equipment, communications plans, regular training and exercises.

Conclusion

Based on the evidence reviewed, this due diligence did not find significant issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work; rather it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

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B50 Port of Tanjung Pelepas, Malaysia

7 March 2024

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Author: Megan Wood Approved: Rudi Seebach

Port due diligence executive summary

WSP Pty Ltd (WSP) conducted a due diligence of the Port of Tanjung Pelepas, Malaysia during March 2024 on behalf of Orica Australia Pty Ltd (Orica).

The assessment was reviewed by Rudi Seebach who meets the International Cyanide Management Institute's (ICMI) requirements for a Transport Technical Specialist.

The following items, as detailed in the ICMI's Auditor Guidance for Use of Cyanide Transportation Verification Protocol (ICMI 2021), were addressed within the due diligence:

- Transport Practice 1.1 (Questions 1-4 and 6)
- Transport Practice 1.5 (Question 1)
- Transport Practice 1.6
- Transport Practice 2.1
- Transport Practice 3.1.

The ICMI's *Auditor Guidance for Use of Cyanide Transportation Verification Protocol* (ICMI 2021) was used to conduct the due diligence assessment. It was not possible during this due diligence to physically inspect operations, as such the review was based on information obtained from previous due diligence reviews, ICMI audit reports and publicly available online information. Based on the evidence reviewed, this due diligence did not find issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance of for future work; rather it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

Overview of the Port of Tanjung Pelepas, Malaysia

The Port of Tanjung Pelepas (PTP), one of the world's top 20 busiest ports, it is situated in Iskandar Puteri, within the Johor Bahru District of Johor, Malaysia at the intersection of the primary east-west shipping routes. This location allows Shipping Lines a mere 45-minute deviation time and is situated in a sheltered bay without any tidal restrictions.

The port features 14 linear berths spanning 5.04km in total. The terminal is outfitted with 66 Super Post Panamax cranes, including 24 with a 24-box outreach designed to accommodate the upcoming generation of Triple E size vessels.

Located at the eastern entrance of the Pulai River in southwestern Johor, Malaysia, the port is conveniently close to the Straits of Johor, which demarcates the border between Malaysia and Singapore, and the Strait of Malacca. The port, which was built to rival Singaporean ports, handles transshipment for over 90% of its traffic. With an impressive annual capacity of 12,500,000 twenty-foot equivalent units (TEU), it stands as Malaysia's most technologically advanced container terminal (Seabay Logistics, 2024).

MMC Port Holdings Sdn Bhd, a subsidiary of the MMC Group, manages key gateways and transhipment hubs that play a crucial role in promoting international trade and Malaysia's economic development (MMC Ports, 2024). APM Terminals (APMT) and MMC Group, the joint owners, have invested approximately $178 million in the facility for 2022. With an aim to reach the 15 million TEU milestone in the upcoming years, PTP has prioritized a range of digital expansion projects (Port Technology, 2022).

ICMC transport verification protocol assessment

Transport Practice 1.1: Select cyanide transport routes to minimise the potential for accidents and releases

Orica uses reputable shipping lines for the transportation of sodium cyanide manufactured by Orica or manufactured by third parties on behalf of Orica (Orica, 2024a).

Orica's Sodium Cyanide Transport Management protocol (Orica, 2024a) states that all routes used for sodium cyanide transport must undergo a risk assessment to determine their suitability. If multiple routes are available, each one requires an individual risk assessment. These assessments are conducted in accordance with the Route Risk Assessment (Orica, 2024c) and AS 4360:2004 Risk Management standards. Any risks identified as "extreme" must be prioritised and addressed through the development of an action plan to mitigate these risks as much as possible. The process for documenting the risks associated with selected routes is outlined in the Route Risk Assessment (Orica, 2024c).

Feedback regarding the routes is taken into consideration and forwarded to the Health, Safety & Environment (HS&E) Officer for the necessary updates to the route assessment. This information is also shared with the Orica representative in the relevant region (Orica, 2024a).

In situations where special safety measures or concerns are present, or where escorts are required, compliance with SUP-GLO-PRO-024 is mandatory. Additionally, Carrier Safety Programs should align with the requirements of SUP-GLO-PRO-005 (Orica, 2024a).

Transport Practice 1.5: Follow international standards for transportation of cyanide by sea

Orica's manufacturing facility and transfer stations are ICMC certified, therefore, sodium cyanide is packaged and transported in accordance with international regulatory standards and in line with all requirements of the International Maritime Dangerous Goods Code (IMDG) and the current versions of the United Nations Dangerous Goods Transport Guidelines, the Australian Code for the Transport of Dangerous Goods by Road and Rail and the International Maritime Dangerous Goods Code (Orica, 2024a).

Carriers are required to provide manifest documentation, to satisfy local customs regulations and the requirements of the International Maritime Dangerous Goods (IMDG) Code (IMO, 2024b), to the destination port. The manifest should contain a list of the cargo types and in the case of sodium cyanide and any other hazardous cargo the quantity, unique packaging numbers, stowage reference and emergency response procedures. Assessment of transportation agencies is via the Orica Carrier Assessment Questionnaire found in SUP-GLO-PRO-016, which enables a self-assessment and external assessment. A scoring system is included in this assessment process with minimum standards detailed (Orica, 2024a).

Malaysia is an International Maritime Organization (IMO) Member State (1971) (IMO, 2024) and a Safety of Life at Sea (SOLAS) Signatory Nation (1974) (ICSLAS, 2024) thereby requiring the port to adhere to the international regulations for the transportation and handling of dangerous goods as set out in the International Maritime Dangerous Goods Code (Parts 4, 5 and 7) (IMO, 2024b) & (IMO, 2024c).

Transport Practice 1.6: Track cyanide shipments to prevent losses during transport

As a SOLAS signatory nation, it is obligation to transmit Long-Range Identification and Tracking (LRIT) information. This system provides global identification and tracking of ships for security, safety and protection of marine environment (IMO, 2024c).

Chain of custody documentation is used by shipping companies to prevent the loss of cargo during shipment. This documentation includes the vessel manifest which identifies the location and content of each container on the vessel along with packing certificates, Multimodal Dangerous Goods Forms and Safety Data Sheets (WSP Australia Pty Ltd, 2023).

Transport Practice 2.1: Store cyanide in a manner that minimises the potential for accidental releases

In general, port and vessel security are managed through the International Ship and Port Facility Security Code (ISPS Code). The ISPS Code is a comprehensive set of measures to enhance security of ships and port facilities and is mandatory for the SOLAS signatory countries (IMO, SOLAS XI-2 and the ISPS Code, 2024).

The purpose of the ISPS Code is to provide a standardised, consistent framework for evaluating risk, enabling Governments to offset changes in threat with changes in vulnerability for ships and port facilities through determination of appropriate security levels and corresponding security measures. The ISPS Code takes the approach that ensuring the security of ships and port facilities is a risk management activity and that, to determine what security measures are appropriate, an assessment of the risks must be made in each case.

Transport Practice 3.1: Prepare detailed emergency response plans for potential cyanide releases

Malaysia has been a Member State of the IMO Council since 1971 (IMO, Council Members, 2024a) and complies with the requirements of the IMDG Code (IMO, 2024b).

Malaysia is certified under the International Convention on Oil Pollution Preparedness, Response and Cooperation, 1990 (OPRC 90) (United Nations, 1995). States which are party to OPRC 90 are required to establish a national system for responding to oil and hazardous/noxious substances pollution incidents, including a designated national authority, a national operational contact point and a national contingency plan. This needs to be supported by a minimum level of response equipment, communications plans, and regular training and exercises.

Conclusion

Based on the evidence reviewed, this due diligence did not find significant issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work; rather it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

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B51 Port of Tauranga, New Zealand

7 March 2024

PS211281 051. RevA

Author: Megan Wood Approved: Rudi Seebach

Port due diligence executive summary

WSP Pty Ltd (WSP) conducted a due diligence of Tauranga, New Zealand during March 2024 on behalf of Orica Australia Pty Ltd (Orica).

The assessment was reviewed by Rudi Seebach, who meets the International Cyanide Management Institute's (ICMI) requirements for a Transport Technical Specialist.

The following items, as detailed in the ICMI's Auditor Guidance for Use of Cyanide Transportation Verification Protocol (ICMI 2021), were addressed within the due diligence:

- Transport Practice 1.1 (Questions 1-4 and 6)
- Transport Practice 1.5 (Question 1)
- Transport Practice 1.6
- Transport Practice 2.1
- Transport Practice 3.1.

The ICMI's *Auditor Guidance for Use of Cyanide Transportation Verification Protocol* (ICMI 2021) was used to conduct the due diligence assessment. It was not possible during this due diligence to physically inspect operations, as such the review was based on information obtained from previous due diligence reviews, ICMI audit reports and publicly available online information. Based on the evidence reviewed, this due diligence did not find issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work. Instead, it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

Overview the Port of Tauranga, New Zealand

The port of Tauranga (POTL) is in the Bay of Plenty region, on New Zealand's North Island. It is operated by the company, Port of Tauranga Ltd and is able to accommodate the largest container vessels (Port of Tauranga, 2024).

The Tauranga Container Terminal has dedicated road and rail access, streamlining cargo movement into and out of the port, and is a key link in the MetroPort (land port) Auckland and the Ruakure Auperhub that opened in 2022 (Port of Tauranga, 2024). The Terminal operates a fleet of 53 straddle carriers linked by leading-edge information technology, ensuring the efficient movement of containers and allowing customers to track their cargo through every step in the process (Port of Tauranga, 2024).

Port operations include (WSP Australia Pty Ltd, 2023):

- The approach of the vessel to the ports will take into any account any channels, special navigation points and as mentioned above the currents, tides and weather.

- Entry into port is controlled by the port's Pilot who understands the port protocols and any unique issues regarding the approach and docking of a vessel at the port. The Ship's Captain works in conjunction with the Pilot as he understands his vessel and can implement and assist with the Pilot's instructions.
- Port protocols exist for docking of vessels (e.g.,, use of Pilots, use of tug boats, management of different weather conditions, tides, currents and safety and general port operations). This sees to the safe docking and turnaround of the vessels in and out of the port.
- Once a vessel is secure alongside the wharf the shipping activities changeover to port activities. The vessels manifest of what containers are required to be unloaded from the vessel, including the manifest for containers for loading are handed over. This manifest will identify hazardous cargos and their UN number and classification and segregation requirements.

Stevedoring is the process of loading vessels and stowing cargo. At Tauranga this service is provided by privately-owned companies under contract to exporters, importers or shipping companies. Stevedoring companies employ their own workforce and directly service their own customers.

Stevedoring operations include (WSP Australia Pty Ltd, 2023):

- Handling of the containers whether full or empty on and off the vessels; container storage areas for general cargo, port security, control systems for companies and their vehicles collecting and or delivering containers.
- Software programs that control container placement and movement; these software packages identify each individual container placement area in designated stacks. The input information for the placement of containers comes from the vessel's manifest.

At Tauranga, all cargo, which is, or contains Dangerous Goods, is to be received, stored and despatched using appropriate hazard control procedures based on the Internationals Maritime Dangerous Goods (IMDG) classification. The port area is regarded as a large ship and all cargo is to be planned and stowed in terms of the Code. Planners preparing cargo for loading into ships use the IMDG Code to ensure safe and compliant stowage of the vessel (Port of Tauranga, 2024).

ICMC transport verification protocol assessment

Transport Practice 1.1: Select cyanide transport routes to minimise the potential for accidents and releases

Orica uses reputable shipping lines for the transportation of sodium cyanide manufactured by Orica or manufactured by third parties on behalf of Orica (Orica, 2024a).

Orica's Sodium Cyanide Transport Management protocol (Orica, 2024a) states that all routes used for sodium cyanide transport must undergo a risk assessment to determine their suitability. If multiple routes are available, each one requires an individual risk assessment. These assessments are conducted in accordance with the Route Risk Assessment (Orica, 2024c) and AS 4360:2004 Risk Management standards. Any risks identified as "extreme" must be prioritised and addressed through the development of an action plan to mitigate these risks as much as possible. The process for documenting the risks associated with selected routes is outlined in the Route Risk Assessment (Orica, 2024c).

Feedback regarding the routes is taken into consideration and forwarded to the Health, Safety & Environment (HS&E) Officer for the necessary updates to the route assessment. This information is also shared with the Orica representative in the relevant region (Orica, 2024a).

In situations where special safety measures or concerns are present, or where escorts are required, compliance with SUP-GLO-PRO-024 is mandatory. Additionally, Carrier Safety Programs should align with the requirements of SUP-GLO-PRO-005 (Orica, 2024a).

Transport Practice 1.5: Follow international standards for transportation of cyanide by sea

Orica's manufacturing facility and transfer stations are ICMC certified, therefore, sodium cyanide is packaged and transported in accordance with international regulatory standards and in line with all requirements of the International Maritime Dangerous Goods Code (IMDG) and the current versions of the United Nations Dangerous Goods Transport Guidelines, the Australian Code for the Transport of Dangerous Goods by Road and Rail and the International Maritime Dangerous Goods Code (Orica, 2024a).

Carriers are required to provide manifest documentation, to satisfy local customs regulations and the requirements of the International Maritime Dangerous Goods (IMDG) Code (IMO, 2024b), to the destination port. The manifest should contain a list of the cargo types and in the case of sodium cyanide and any other hazardous cargo the quantity, unique packaging numbers, stowage reference and emergency response procedures. Assessment of transportation agencies is via the Orica Carrier Assessment Questionnaire found in SUP-GLO-PRO-016, which enables a self-assessment and external assessment. A scoring system is included in this assessment process with minimum standards detailed (Orica, 2024a).

New Zealand is both an International Maritime Organization (IMO) Member State (1960) (IMO, Member States, 2024a) and a Safety of Life at Sea (SOLAS) Signatory Nation (1990) (ICSLAS, 2024), thereby requiring the Port of Auckland to adhere to the international regulations for the transportation and handling of dangerous goods as set out in the IMDG Code (Parts 4, 5 and 7) (IMO 2018) and SOLAS Convention (1974) (Chapter 7) (IMO, 2024b) & (IMO, 2024c).

Transport Practice 1.6: Track cyanide shipments to prevent losses during transport

The Dispatch Centre organises ship movements, tracks pilotage operations, and supervises terminal operations via real-time CCTV monitoring (WSP Australia Pty Ltd, 2023).

Chain of custody documentation is used by shipping companies to prevent the loss of cargo during shipment. This documentation includes the vessel manifest which identifies the location and content of each container on the vessel along with packing certificates, Multimodal Dangerous Goods Forms and Safety Data Sheets (SDS) (WSP Australia Pty Ltd, 2023).

Port Control allows for monitoring harbour traffic, communicating with vessels, planning ship movements, security and surveillance etc. via a computerised Harbour Management System (Port Control | Port of Tauranga | New Zealand, 2024).

Tauranga Harbour Control schedules commercial movements around the harbour to coordinate adequate resources for each movement. It has an advisory role for providing information to ships and other craft entering the harbour limits (Port of Tauranga, 2024).

Transport Practice 2.1: Store cyanide in a manner that minimises the potential for accidental releases

The port of Tauranga has a statutory obligation to comply with the *port's New Zealand Customs (NZC) Procedure Statement*, the *Customs and Excise Act 1996* (New Zealand Customs Service 1996), International Ship and Port Facility Security (ISPS) Code and the *Maritime Security Act 2004* (Port of Tauranga, 2024).

For the import of dangerous goods, the port enforces either a Direct to Motor Vehicle (DMV) or L&R process. Allowable dwell times are specified based on dangerous goods class and UN numbers; the dwell time commences from the time the container is discharged onto the wharf. The sodium cyanide allowable dwell time is 72 hours (Ports of Auckland, 2016).

Maritime New Zealand is responsible for the enforcement of both the Hazardous Substances and New Organisms (HSNO) Act and Health and Safety at Work Act on board ships but not on land within ports The harbour and port SMSs address the safe handling and notifications of dangerous goods and harmful substances on board ships in the harbour and at the berth. This includes dangerous goods and hazardous substances that may be in transit to other locations but are not being loaded or unloaded (Port of Tauranga, 2024).

The entire area within the Port of Tauranga security fence line is a designated Customs Controlled Area (CCA) and the port is required to monitor and control all persons entering the CCA (Port of Tauranga, 2024).

Access to the wharf area is restricted to authorised persons only. Entry on to the port area is controlled by barrier arms at all road gates (WSP Australia Pty Ltd, 2023). Surrounding roads, Rata Street and Tasman Quay gates are only open to heavy vehicles and light vehicles carrying security access cards. The Hull Road gate is manned 24 hours a day, seven days per week, and is monitored by a Customer Service Centre (WSP Australia Pty Ltd, 2023). Only heavy vehicles, authorised persons and visitors with legitimate business reason are permitted on to the port. The gate at Sulphur Point on the Tauranga side of the harbour is manned 24 hours per day.

Dangerous goods are stored in accordance with the detailed management procedures as specified in the Dangerous Goods and Hazardous Substances Code of Practice Section 5. At least two (2) days before the arrival of a vessel, the Agent or Stevedore is to supply a copy of the dangerous goods declaration for every consignment which carries an IMDG classification. Cargo containing dangerous goods is stored in pre-planned positions. There are a series of maps which indicate which classes of dangerous goods can be stored (Port of Tauranga, 2024).

Associated Codes of Practice HSNOCOP-16, HSNOCOP-28 and HSNOCOP-2 ensure that cyanide is stored securely and with adequate ventilation (Worksafe, 2024).

Transport Practice 3.1: Prepare detailed emergency response plans for potential cyanide releases

New Zealand has been a member State of the IMO Member since 1960 (IMO, Member States, 2024a), it complies with the requirements of the IMDG Code (IMO, 2024b) .

The Miniter of New Zealand is the competent authority and has responsibility for all forms of marine emergencies, including administering the National Contingency Plan (NCP) for dealing with pollution by oil and other noxious substances in marine and freshwater environments.

The port is certified under the International Convention on Oil Pollution Preparedness, Response and Cooperation, 1990 (OPRC 90) (IMO, 2024d). States which are party to OPRC 90 are required to establish a national system for responding to oil and hazardous/noxious substances pollution incidents, including a designated national authority, a national operational contact point and a national contingency plan. This needs to be supported by a minimum level of response equipment, communications plans, and regular training and exercises (ITOPF, 2024).

Code of Practice HSNOCOP-36 Preparing for a Chemical Emergency also provides a comprehensive guide to emergency management suitable for use by businesses and facilities engaged in the storage, transport, use and handling of chemicals and hazardous substances (Worksafe, 2024).

Conclusion

Based on the evidence reviewed, this due diligence did not find significant issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work; rather it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

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B52 Port of Tema, Ghana

29 February 2024

PS211281 052. RevA

Author: Megan Wood

Approved: Rudi Seebach

Port due diligence executive summary

WSP Pty Ltd (WSP) conducted a due diligence of Tema, Ghana during February 2024 on behalf of Orica Australia Pty Ltd (Orica).

The assessment was reviewed by Rudi Seebach, who meets the International Cyanide Management Institute's (ICMI) requirements for a Transport Technical Specialist.

The following items, as detailed in the ICMI's Auditor Guidance for Use of Cyanide Transportation Verification Protocol (ICMI 2021), were addressed within the due diligence:

- Transport Practice 1.1 (Questions 1-4 and 6)
- Transport Practice 1.5 (Question 1)
- Transport Practice 1.6
- Transport Practice 2.1
- Transport Practice 3.1.

The ICMI's *Auditor Guidance for Use of Cyanide Transportation Verification Protocol* (ICMI 2021) was used to conduct the due diligence assessment. It was not possible during this due diligence to physically inspect operations, as such the review was based on information obtained from previous due diligence reviews, ICMI audit reports and publicly available online information. Based on the evidence reviewed, this due diligence did not find issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work. Instead, it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

Overview of the Port of Tema, Ghana

The port of Tema is the largest port in Ghana and located 30 km from Accra. The port handles about 12 million tonnes of cargo annually and receives over 1,650 vessel calls per year, including container vessels, general cargo vessels, tankers, Roll-on/Roll-off (Ro-Ro) and cruise vessels (Logistics Clusters, 2024f).

Tema port is the main container port servicing Ghana and its neighbouring landlocked countries. The port harbour has a water-enclosed area of 1.7 million m^2 and covers a total land area of 3.9 million m^2, 12 deepwater berths, one oil-tanker berth, one dockyard, warehouses, and transit shed (Logistics Clusters, 2024f).

Cyanide manufacturers and suppliers can ship product to the port from different parts of the world. The port allows for the unloading of shipments for final road transportation to the mining operations in Ghana as well as Burkina Faso and Eastern Mali.

The Ghana Ports and Harbour Authority (GPHA) oversees Port operations. This includes (WSP Australia Pty Ltd, 2023)

- Port protocols exist for docking of vessels, e.g.,, use of Pilots; use of tug boats; different weather conditions, tides, currents; safety; and general Port operations. This sees to the safe docking and turnaround of the vessels in and out of the Port.

- Entry into port is controlled by the port's harbour master who understands the port protocols and unique issues regarding the approach and docking of a vessel at the port. The harbour master has oversight of nautical operations within the port. This comprises operational tasks related to the safety and efficiency of vessel management within the boundaries of the port. The harbour master's office allocates berths and coordinates all services necessary to berth and un-berth a vessel. These services include pilotage, towage, mooring and unmooring, and vessel traffic service.
- The Ship's Captain works in conjunction with the harbour master as he understands his vessel and can implement and assist with the harbour master's instructions.
- The approach of the vessel to the port will take into any account any channels, special navigation points and as mentioned above the currents, tides and weather.
- The GPHA manages the handling of dangerous goods through the Tema port.

Stevedoring services are provided by the GPHA and ten private stevedoring companies. GPHA controls 25% of all stevedoring. The remaining 75% is performed by private companies. Operations include (WSP Australia Pty Ltd, 2023):

- Handling of the containers whether full or empty on and off the vessels; container storage areas; port security, emergency response, control systems for companies and their vehicles collecting and or delivering containers
- Software programs control container movement through the ports. In the case of the sodium cyanide containers on arrival the ports the containers are stacked separately and segregated from other containers. The software also monitors the restricted time allowed for dangerous goods to be handled through the port and allows the port to charge penalty rates for goods not cleared and taken from the port within a defined time.

Ghana is a member of the International Maritime Organization (IMO) Council and is party to the Abuja Memorandum of Understanding, and as such performs its Port State Obligations, supervises foreign ships that berth at Ghana ports, and promotes compliance with international conventions among Flag States through Port State Control.
GPHA operates an integrated management system in line with requirements of International Standards Organization (ISO) 9001: 2015, 14001: 2015 and OHSAS 18001:2007 (The B&FT Online, 2024).

ICMC transport verification protocol assessment

Transport Practice 1.1: Select cyanide transport routes to minimise the potential for accidents and releases

Orica uses reputable shipping lines for the transportation of sodium cyanide manufactured by Orica or manufactured by third parties on behalf of Orica (Orica, 2024a).

Orica's Sodium Cyanide Transport Management protocol (Orica, 2024a) states that all routes used for sodium cyanide transport must undergo a risk assessment to determine their suitability. If multiple routes are available, each one requires an individual risk assessment. These assessments are conducted in accordance with the Route Risk Assessment (Orica, 2024c) and AS 4360:2004 Risk Management standards. Any risks identified as "extreme" must be prioritised and addressed through the development of an action plan to mitigate these risks as much as possible. The process for documenting the risks associated with selected routes is outlined in the Route Risk Assessment (Orica, 2024c).

Feedback regarding the routes is taken into consideration and forwarded to the Health, Safety & Environment (HS&E) Officer for the necessary updates to the route assessment. This information is also shared with the Orica representative in the relevant region (Orica, 2024a).

In situations where special safety measures or concerns are present, or where escorts are required, compliance with SUP-GLO-PRO-024 is mandatory. Additionally, Carrier Safety Programs should align with the requirements of SUP-GLO-PRO-005 (Orica, 2024a).

The port of Tema is located in relatively close proximity to mining operations in Ghana and landlocked countries within the West Africa region (WSP Australia Pty Ltd, 2023).

Transport Practice 1.5: Follow international standards for transportation of cyanide by sea

Orica's manufacturing facility and transfer stations are ICMC certified, therefore, sodium cyanide is packaged and transported in accordance with international regulatory standards and in line with all requirements of the International Maritime Dangerous Goods Code (IMDG) and the current versions of the United Nations Dangerous Goods Transport Guidelines, the Australian Code for the Transport of Dangerous Goods by Road and Rail and the International Maritime Dangerous Goods Code (Orica, 2024a).

Carriers are required to provide manifest documentation, to satisfy local customs regulations and the requirements of the International Maritime Dangerous Goods (IMDG) Code (IMO, 2024b), to the destination port. The manifest should contain a list of the cargo types and in the case of sodium cyanide and any other hazardous cargo the quantity, unique packaging numbers, stowage reference and emergency response procedures. Assessment of transportation agencies is via the Orica Carrier Assessment Questionnaire found in SUP-GLO-PRO-016, which enables a self-assessment and external assessment. A scoring system is included in this assessment process with minimum standards detailed (Orica, 2024a).

Ghana is an IMO Member State (1959) (IMO, 2019) and a Safety of Life at Sea (SOLAS) Signatory Nation (1974) (ICSLAS, 2024) thereby requiring the Port of Tema to adhere to the international regulations for the transportation and handling of dangerous goods as set out in the International Maritime Dangerous Goods Code (Parts 4, 5 and 7) (IMO, 2024b) & (IMO, 2024c).

Transport Practice 1.6: Track cyanide shipments to prevent losses during transport

The port requires advance notice of 72 hours prior to the estimated arrival of vessels. The harbour master has oversight of nautical operations within the port, including pilotage, towage, mooring and unmooring, and vessel traffic services. Software programs control container movement through the ports (Ghana Ports and Harbours Authority, 2024).

Chain of custody documentation is used by shipping companies to prevent the loss of cargo during shipment. This documentation includes the vessel manifest which identifies the location and content of each container on the vessel along with packing certificates, Multimodal Dangerous Goods Forms and Material Safety Data Sheets (MSDS).

Port stevedores receive the vessels manifest on arrival, which includes the containers for unloading and handling by them (WSP Australia Pty Ltd, 2023). This information is then captured in the stevedore's management systems, which assists with the location where each container from the vessel is to be placed after unloading. Transport from the unloading berth to the interim storage facility is controlled by documentary checks detailing the container details and contents.

MPS utilises a terminal operating system to manage container movement, vessel discharges and yard allocations to minimise delays. Containers are tracked using differential global positioning systems.

The clearance process at Tema Port comprises (WSP Australia Pty Ltd, 2023):

- Declaration of cargo data on the UNIPASS-Ghana System
- Customs Document Verification, System Validation, Cargo Classification and Valuation, Risk Assessment and quality assurance, payment of duty, cargo verification
- Release by the Shipping Agent

- Delivery by the port and other receipt delivery service providers
- Customs physical examination or scanning of cargo before cargo is allowed to exit the port.

Transport Practice 2.1: Store cyanide in a manner that minimises the potential for accidental releases

As per the previous Detailed Audit Report (WSP Australia Pty Ltd, 2023), the Port of Tema has restricted access and security processes, including optimal character recognition, biometric identify cards and CCTV. The port has perimeter fencing and terminal entry and exit gates are monitored on 24-hour basis. Software programs control container movement through the ports.

The port of Tema has dedicated storage areas for specialised products including dangerous goods; cyanide containers are segregated and stacked separately. The area into which cyanide containers are placed whilst awaiting clearance is well ventilated to prevent the build-up of hydrogen cyanide gas and is suitable to contain any spillage that may occur.

Whilst cyanide is present at the port, temporary signage is provided to warn of its presence and the safety and personal protective equipment requirements. Whilst the product is being stored or handled, signage prohibiting the consumption of food and beverages and open sources of ignition, including smoking, is displayed.

All sodium cyanide transited through the Port of Tema remains sealed inside its container at all times. Seals are individually numbered and tamper evident. Admission of solid sodium cyanide through the Port of Tema is limited to a specific customer. Solid sodium cyanide is only held at the Port of Tema for a short period to enable completion of specific Ghanaian governmental customs and quarantine clearances.

The port of Tema is accredited under the International Ship and Port Facility Security (ISPS) Code. This is maintained by the GPHA which reports to the appropriate central Ghana government minister. The port has on-site security personnel who are always present, this includes a mobile security team and port security personnel stationed at entry points.

Transport Practice 3.1: Prepare detailed emergency response plans for potential cyanide releases

The GPHA is responsible for the protection of property and emergency preparedness and response.

The Port of Tema has emergency response procedures., following the IMDG Code requirements. The port has an internal emergency response and first aid capabilities that is supported by external sources. Training is provided to personnel in dangerous goods awareness and procedures.

The Port of Tema is certified under the IMO’s International Convention on Oil Pollution Preparedness, Response and Cooperation 1990 (United Nations, 1995). States which are party to OPRC 90 protocol are required to establish a national system for responding to oil and hazardous/noxious substances pollution incidents, including a designated national authority, a national operational contact point and a national contingency plan. This needs to be supported by a minimum level of response equipment, communications plans, regular training and exercises (ITOPF, 2024).

The lead agency for dealing with major spills is the Environment Protection Agency of the Ministry of Environment, Science and Technology, which works in conjunction with the Ministry of Transport and Communications. Limited emergency response equipment is available through both Government and private sector sources.

Conclusion

Based on the evidence reviewed, this due diligence did not find significant issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work; rather it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

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B53 Port of Townsville, Australia

1 March 2024

PS211281 053. RevA

Author: Megan Wood

Approved: Rudi Seebach

Port due diligence executive summary

WSP Pty Ltd (WSP) conducted a due diligence of the Port of Townsville, Australia during March 2024 on behalf of Orica Australia Pty Ltd (Orica).

The assessment was reviewed by Rudi Seebach who meets the International Cyanide Management Institute's (ICMI) requirements for a Transport Technical Specialist.

The following items, as detailed in the ICMI's Auditor Guidance for Use of Cyanide Transportation Verification Protocol (ICMI 2021), were addressed within the due diligence:

- Transport Practice 1.1 (Questions 1-4 and 6)
- Transport Practice 1.5 (Question 1)
- Transport Practice 1.6
- Transport Practice 2.1
- Transport Practice 3.1.

The ICMI's *Auditor Guidance for Use of Cyanide Transportation Verification Protocol* (ICMI 2021) was used to conduct the due diligence assessment. It was not possible during this due diligence to physically inspect operations, as such the review was based on information obtained from previous due diligence reviews, ICMI audit reports and publicly available online information. Based on the evidence reviewed, this due diligence did not find issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work. Instead, it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

Overview of the Port of Townsville, Australia

The Port of Townsville Queensland, Australia, is a corporation owned by the government. Positioned to the south of Ross Creek's mouth and to the north of the Ross River, it ranks as the third largest seaport in Queensland, following the Port of Brisbane and the Port of Gladstone. It holds the distinction of being the largest port for general cargo and containers in Northern Australia (Seabay Logisitics, 2024).

The port handles general and small-sized/light project cargo, refined metals, and production input cargo, which collectively make up just under 10% of the total trade. The port services the mining, agricultural, and industrial sectors of north and central Queensland with containerised imports like chemical products, plant, machinery, and tyres. More than half of the containerised exports are accounted for by refined minerals from the Glencore copper refinery and Sun Metals zinc refinery, along with bagged mineral ores from the Evolution mine.

The Ports of Townsville operates under the security regulations set out in the Maritime Transport and Offshore Facilities Security Act (MTOFSA) 2003. With its eight operational berths, the port handles one of the nation's most diverse regional commodity bases (Port of Townsville, 2024).

ICMC transport verification protocol assessment

Transport Practice 1.1: Select cyanide transport routes to minimise the potential for accidents and releases

Orica uses reputable shipping lines for the transportation of sodium cyanide manufactured by Orica or manufactured by third parties on behalf of Orica (Orica, 2024a).

Orica's Sodium Cyanide Transport Management protocol (Orica, 2024a) states that all routes used for sodium cyanide transport must undergo a risk assessment to determine their suitability. If multiple routes are available, each one requires an individual risk assessment. These assessments are conducted in accordance with the Route Risk Assessment (Orica, 2024c) and AS 4360:2004 Risk Management standards. Any risks identified as "extreme" must be prioritised and addressed through the development of an action plan to mitigate these risks as much as possible. The process for documenting the risks associated with selected routes is outlined in the Route Risk Assessment (Orica, 2024c).

Feedback regarding the routes is taken into consideration and forwarded to the Health, Safety & Environment (HS&E) Officer for the necessary updates to the route assessment. This information is also shared with the Orica representative in the relevant region (Orica, 2024a).

In situations where special safety measures or concerns are present, or where escorts are required, compliance with SUP-GLO-PRO-024 is mandatory. Additionally, Carrier Safety Programs should align with the requirements of SUP-GLO-PRO-005 (Orica, 2024a).

Transport Practice 1.5: Follow international standards for transportation of cyanide by sea

Orica's manufacturing facility and transfer stations are ICMC certified, therefore, sodium cyanide is packaged and transported in accordance with international regulatory standards and in line with all requirements of the International Maritime Dangerous Goods Code (IMDG) and the current versions of the United Nations Dangerous Goods Transport Guidelines, the Australian Code for the Transport of Dangerous Goods by Road and Rail and the International Maritime Dangerous Goods Code (Orica, 2024a).

Carriers are required to provide manifest documentation, to satisfy local customs regulations and the requirements of the International Maritime Dangerous Goods (IMDG) Code (IMO, 2024b), to the destination port. The manifest should contain a list of the cargo types and in the case of sodium cyanide and any other hazardous cargo the quantity, unique packaging numbers, stowage reference and emergency response procedures. Assessment of transportation agencies is via the Orica Carrier Assessment Questionnaire found in SUP-GLO-PRO-016, which enables a self-assessment and external assessment. A scoring system is included in this assessment process with minimum standards detailed (Orica, 2024a).

Australia is an International Maritime Organization (IMO) Member State (1952) (IMO, 2019) and a Safety of Life at Sea (SOLAS) Signatory Nation (1974) (ICSLAS, 2024) thereby requiring the Port of Townsville to adhere to the international regulations for the transportation and handling of dangerous goods as set out in the International Maritime Dangerous Goods Code (Parts 4, 5 and 7) (IMO, 2024b) & (IMO, 2024c).

Transport Practice 1.6: Track cyanide shipments to prevent losses during transport

According to the Transport Operations (Marine Safety) Act 1994, the Regional Harbour Master, an officer of Maritime Safety Queensland, oversees navigation control within the port, with Vessel Traffic Services being responsible for shipping movements in the pilotage area and operations 24 hours a day (Government of Queensland, 2004).

Chain of custody documentation is used by shipping companies to prevent the loss of cargo during shipment. This documentation includes the vessel manifest which identifies the location and content of each container on the vessel along with packing certificates, Multimodal Dangerous Goods Forms and Safety Data Sheets.

In line with the Australian Standard (AS) 3846-2005, The Handling and Transport of Dangerous Cargoes in port Areas (Standards Australia, 2005), the Port of Townsville must be notified of the intent to bring dangerous cargo into or depart from a pilotage area. In addition, ships must report the information, namely the arrival and/or departure of the ship, the removal of the ship to another berth or anchorage, the transfer of the cargo to another ship the loading of the cargo, and the details of the cargo in an approved form.

Division 13 of the Transport Operations (Marine Safety) Regulation 2004 outlines the duties of owners and masters of vessels in relation to the carriage of dangerous goods. The regulation requires that ships carrying dangerous goods and bulk liquids must comply with the appropriate directions of the IMDG code (Government of Queensland, 2004).

Transport Practice 2.1: Store cyanide in a manner that minimises the potential for accidental releases

The port is responsible for the security and protection of the port's infrastructure and assets, and the provision of risk-based security services. In general, port and vessel security are managed through the International Ship and port Facility Security Code (ISPS Code). The ISPS Code is a comprehensive set of measures to enhance security of ships and port facilities, regulated by the *Maritime Transport and Offshore Facilities Security Act, 2003* (MTOFSA) (Australian Government, 2012).

Transport Practice 3.1: Prepare detailed emergency response plans for potential cyanide releases

The Port of Townsville is certified under the IMO's International Convention on Oil Pollution Preparedness, Response and Cooperation 1990 (OPRC 90) (united Nations,1995). States which are party to OPRC 90 protocol are required to establish a national system for responding to oil and hazardous/noxious substances pollution incidents, including a designated national authority, a national operational contact point and a national contingency plan. This needs to be supported by a minimum level of response equipment, communications plans, and regular training and exercises.

Australian Maritime Safety Authority (AMSA), a federal government self-funded maritime safety agency established in 1990, is responsible for providing a national response capability for marine pollution. AMSA administers the National Plan to Combat Pollution of the Sea by Oil and other Noxious and Hazardous Substances, a cooperative arrangement between the Federal, State and Territory Governments and the shipping, oil, exploration and chemical industries, emergency services and fire brigades (Australian Government, 2021).

Under National Plan arrangements, a wide strategic range of response equipment is held at nine regional stockpiles. Equipment provided by AMSA is generally targeted at larger spills, though this is complemented by equipment held by port authorities, State Governments and individual oil and chemical companies.

Section 12 (Emergency Management) of the port Procedures and Information for Shipping, Port of Brisbane (MSQ 2020) provides guidance to the port community about initial response procedures to dangerous incidents, emergencies, terrorist acts and disasters (Maritime Safety Queensland, 2020).

Conclusion

Based on the evidence reviewed, this due diligence did not find significant issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work; rather it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

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B54 Port of Walvis Bay, Namibia

7 March 2024

PS211281 054. RevA

Author: Megan Wood   Approved: Rudi Seebach

Port due diligence executive summary

WSP Pty Ltd (WSP) conducted a due diligence of Walvis Bay, Namibia during March 2024 on behalf of Orica Australia Pty Ltd (Orica).

The assessment was reviewed by Rudi Seebach, who meets the International Cyanide Management Institute's (ICMI) requirements for a Transport Technical Specialist.

The following items, as detailed in the ICMI's Auditor Guidance for Use of Cyanide Transportation Verification Protocol (ICMI 2021), were addressed within the due diligence:

- Transport Practice 1.1 (Questions 1-4 and 6)
- Transport Practice 1.5 (Question 1)
- Transport Practice 1.6
- Transport Practice 2.1
- Transport Practice 3.1.

The ICMI's *Auditor Guidance for Use of Cyanide Transportation Verification Protocol* (ICMI 2021) was used to conduct the due diligence assessment. It was not possible during this due diligence to physically inspect operations, as such the review was based on information obtained from previous due diligence reviews, ICMI audit reports and publicly available online information. Based on the evidence reviewed, this due diligence did not find issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work. Instead, it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

Overview of the Port of Walvis Bay, Namibia

Walvis Bay Port is the main port of Namibia, located on the west coast of southern Africa. It is the largest commercial port in the country, managed by the Namibian Port Authority (Namport). The port provides direct access to major shipping routes that facilitate global trade. The port accommodates approximately 3,000 vessels annually and manages around 5 million tonnes of cargo. It caters to a diverse array of industries, including petroleum, salt, mining, and fishing, and exports both bulk and bagged salt (Namport, 2024).

The entrance channel of the port Is 5.2 nautical miles long, 134 metres wide, and has a depth of -14 metres CD (Seabay Logistics, 2024). Ships can anchor within the port's limits, and they are safeguarded by the bay.

The Walvis Bay Corridor Group oversees transport corridors that provide quick and easy access to the hinterland. This allows the Gauteng market in South Africa to be accessed via the Trans-Kalahari Corridor, bypassing Durban or Cape

Town and saving 7 to 11 days of transit time. The transit time from Antwerp to the Port of Walvis Bay is 17 days (Namport, 2024).

The port adheres to the International Ship and Port Facility Security code (ISPS) (Namport, 2024). To accommodate increasing throughput levels, Namport has consistently enhanced its cargo-handling facilities and remains dedicated to infrastructure development, aligning with its mission to provide efficient and effective port and related services.

ICMC transport verification protocol assessment

Transport Practice 1.1: Select cyanide transport routes to minimise the potential for accidents and releases

Orica uses reputable shipping lines for the transportation of sodium cyanide manufactured by Orica or manufactured by third parties on behalf of Orica (Orica, 2024a).

Orica's Sodium Cyanide Transport Management protocol (Orica, 2024a) states that all routes used for sodium cyanide transport must undergo a risk assessment to determine their suitability. If multiple routes are available, each one requires an individual risk assessment. These assessments are conducted in accordance with the Route Risk Assessment (Orica, 2024c) and AS 4360:2004 Risk Management standards. Any risks identified as "extreme" must be prioritised and addressed through the development of an action plan to mitigate these risks as much as possible. The process for documenting the risks associated with selected routes is outlined in the Route Risk Assessment (Orica, 2024c).

Feedback regarding the routes is taken into consideration and forwarded to the Health, Safety & Environment (HS&E) Officer for the necessary updates to the route assessment. This information is also shared with the Orica representative in the relevant region (Orica, 2024a).

In situations where special safety measures or concerns are present, or where escorts are required, compliance with SUP-GLO-PRO-024 is mandatory. Additionally, Carrier Safety Programs should align with the requirements of SUP-GLO-PRO-005 (Orica, 2024a).

Transport Practice 1.5: Follow international standards for transportation of cyanide by sea

Orica's manufacturing facility and transfer stations are ICMC certified, therefore, sodium cyanide is packaged and transported in accordance with international regulatory standards and in line with all requirements of the International Maritime Dangerous Goods Code (IMDG) and the current versions of the United Nations Dangerous Goods Transport Guidelines, the Australian Code for the Transport of Dangerous Goods by Road and Rail and the International Maritime Dangerous Goods Code (Orica, 2024a).

Carriers are required to provide manifest documentation, to satisfy local customs regulations and the requirements of the International Maritime Dangerous Goods (IMDG) Code (IMO, 2024b), to the destination port. The manifest should contain a list of the cargo types and in the case of sodium cyanide and any other hazardous cargo the quantity, unique packaging numbers, stowage reference and emergency response procedures. Assessment of transportation agencies is via the Orica Carrier Assessment Questionnaire found in SUP-GLO-PRO-016, which enables a self-assessment and external assessment. A scoring system is included in this assessment process with minimum standards detailed (Orica, 2024a).

Namibia is an International Maritime Organization (IMO) Member State (1994) (IMO, Member States, 2024a)and a Safety of Life at Sea (SOLAS) Signatory Nation (1974) (United Nations, 1995)thereby requiring the Port of Walvis Bay to adhere to the international regulations for the transportation and handling of dangerous goods as set out in the International Maritime Dangerous Goods Code (Parts 4, 5 and 7) (IMO, 2024b)& (IMO, 2024c).

Transport Practice 1.6: Track cyanide shipments to prevent losses during transport

The Port Authority organises ship movements, tracks pilotage operations, and supervises terminal operations via real-time closed-circuit television (CCTV) monitoring. The port is a mandatory pilotage area, and requests for pilots must be made to the Port Captain before arrival (Seabay Logistics, 2024)**.**

Chain of custody documentation is used by shipping companies to prevent the loss of cargo during shipment. This documentation includes the vessel manifest which identifies the location and content of each container on the vessel along with packing certificates and multimodal dangerous goods forms (WSP Australia Pty Ltd, 2023).

As a SOLAS signatory nation, it is obligated to transmit Long-Range Identification and Tracking (LRIT) information. This system provides global identification and tracking of ships for security, safety and protection of marine environment (IMO, 2024c).

Transport Practice 2.1: Store cyanide in a manner that minimises the potential for accidental releases

As per Part IX section 106 (Ministry of Works, Transport and Communication, 1994), dangerous goods must adhere to certain requirements. These include the technical name as stipulated by Regulation 4.1 of Part A of the SOLAS Convention, the class and UN number, the number of packages, and the mass of such dangerous goods that fall within any of the categories listed in the IMDG Code.

No dangerous goods may be unloaded until landing, delivery, and forwarding orders or container terminal orders concerning them have been accepted by Namport. Written notices must be given to the Port Captain and the Port Operations Manager or their representatives at least 72 hours before the vessel's arrival.

The owner or master of the vessel must be provided with a dangerous goods certificate or declaration. This document confirms that the shipment offered for carriage is properly classified, packaged, marked, and labelled in accordance with the IMDG code.

The port area has a closed perimeter with restricted access that is controlled by security personnel. There is a dedicated storage area for specialised products including dangerous goods; the container storage area has CCTV installed and remains fully lit at night (WSP Australia Pty Ltd, 2023).

The Control Centre for the port is equipped with computer management systems for alarms, dangerous goods tracking, emergency communications, records of access/egress and video surveillance (WSP Australia Pty Ltd, 2023).

Transport Practice 3.1: Prepare detailed emergency response plans for potential cyanide releases

Namibia has been a member State of the IMO Council since 1994, it complies with the requirements of the IMDG Code.

A Government Action Control Group, led by Namibian Search & Rescue (NAMSAR) has developed an Emergency Plan covering 17 scenarios, including oil spills (ITOPF, 2024). The Directorate of Maritime Affairs of the Ministry of Works, Transport and Communication has also produced a National Oil Spill Contingency Plan (NOSCP) with the aid of the IMO. The Port of Walvis Bay has developed a local spill contingency plan.

The Port of Walvis Bay is certified under the IMO's International Convention on Oil Pollution Preparedness, Response and Cooperation 1990 (United Nations, 1995). States that are party to OPRC 90 protocol are required to establish a national system for responding to oil and hazardous/noxious substances pollution incidents, including a designated national authority, a national operational contact point, and a national contingency plan. This needs to be supported by a minimum level of response equipment, communications plans, regular training, and exercises (ITOPF, 2024).

Conclusion

Based on the evidence reviewed, this due diligence did not find significant issues of concern regarding the management of solid sodium cyanide product. This assessment should not be a final acceptance for future work; rather it is recommended that Orica continue to review and monitor performance periodically and implement an adaptive management process.

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