September 2012

INTERNATIONAL CYANIDE MANAGEMENT CODE - CYANIDE SUPPLY CHAIN AUDIT

Orica Australia Pty Ltd, New Zealand Supply Chain, Summary Audit Report

Submitted to:

International Cyanide Management Institute (ICMI)
1400 I Street, NW Suite
Washington, DC 20005
UNITED STATES OF AMERICA

Orica Australia Pty Ltd
Reid Road via Gladstone
PO Box 375
GLADSTONE QLD 4680

REPORT

Report Number. 127643084-002-R-Rev0

Distribution:

1 Copy - ICMI (+1 Electronic)
1 Copy - Orica Australia Pty Ltd (Electronic)
1 Copy - Golder Associates Pty Ltd (Electronic)

Golder Associates

Table of Contents

1.0 INTRODUCTION

1.1 Operational Information

Name of Transportation Facility:	Orica New Zealand Supply Chain
Name of Facility Owner:	Not Applicable
Name of Facility Operator:	Orica Australia Pty Ltd
Name of Responsible Manager:	David Ellison, SH&E Distribution Risk Manager
Address:	Orica Australia Pty Ltd PO Box 375 Gladstone 4680
State/Province:	Queensland
Country:	Australia
Telephone:	+61 7 4976 3517
Fax:	+61 7 4976 3410
Email:	david.ellison@orica.com

1.2 Description of Operation

1.2.1 Orica Australia Pty Ltd

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. This unit's main product is sodium cyanide (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.

1.2.2 Yarwun Production Facility

Orica's Yarwun Facility, which is located at Yarwun 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.

Cyanide manufactured at the Yarwun Facility is used in gold mining operations within Australia, Asia, Africa, Papua New Guinea, New Zealand and South America.

1.2.3 Sodium Cyanide Transportation

The New Zealand Supply Chain covers the transportation of cyanide from the Port of Brisbane, Australia, by ship to the Port of Tauranga, New Zealand (or in exceptional circumstances, the Port of Auckland, New Zealand) and then by road to the end user.

Orica New Zealand Supply Chain		24 September 2012
Name of Facility	Signature of Lead Auditor	Date

1.2.3.1 Port Facilities

1.2.3.1.1 Port of Tauranga

The Port of Tauranga, located in Tauranga, New Zealand is the largest port in the country in terms of total cargo volume, and the second largest in terms of container throughput. It is operated by Port of Tauranga Ltd and is the only port between Auckland and Wellington offering good shelter in all weather. The port is located in a natural harbour protected by Mount Maunganui and Matakana Islands.

The port has a total of 15 berths, of which 12 are located on the Mount Maunganui side of the harbour (general cargo such as wood, coal handling facilities, bulk liquids), while another three are located at the Tauranga Terminal (containers, including refrigerated freight) at Sulphur Point on the Tauranga side.

The facilities also include two cold stores of 20 000 and 9 000 tonnes, 2.5 hectares of covered storage, 27 hectares of paved container yard, more than 90 hectares of reserve land for future facilities and storage and has five Liebher container cranes.

Orica utilise the Port of Tauranga for their New Zealand Supply Chain almost exclusively.

1.2.3.1.2 Port of Auckland

The Port of Auckland is New Zealand's largest container port by volume and value. It provides a range of cargo-handling and logistics services at two seaports – one on the east coast adjacent to the Auckland central business district, the other on the west coast in Onehunga – and a strategically located inland port at Wiri, South Auckland. The Auckland seaport is New Zealand's largest container port, handling more than 840 000 20-foot equivalent container units (TEU) per annum.

Orica utilise the Port of Auckland as part of its New Zealand Supply Chain only in exceptional circumstances.

1.2.3.2 Ship Transportation

1.2.3.2.1 Pacific Lines International

Pacific International Lines owns and operates a fleet of 133 vessels with a TEU capacity of about 248 315 TEU and including four new multi-purpose vessels and two bulk carriers which will be delivered by December 2010. Pacific International Lines also owns and operates a fleet of more than 370 482 marine containers.

Orica utilises Pacific International Lines to transport sodium cyanide from the Port of Brisbane to the Port of Tauranga (and Port of Auckland in exceptional circumstances).

1.2.3.2.2 Swire Shipping

Swire Shipping is the brand name for all liner shipping services operated by The China Navigation Company Pte Ltd. It has provided niche, regional, multi-purpose shipping services since 1883 when The China Navigation Company established liner services in Australasia. From their traditional core trading area (the Asia - South Pacific region), they have expanded to offer shipping links between over 100 ports in Asia, Pacific Islands, Australia, New Zealand, North America, Europe the Middle East and the Indian Sub Continent.

The China Navigation Company Pte Ltd is wholly owned by The China Navigation Company Ltd, a London registered company that oversees the marine operations of its parent company, John Swire and Sons.

Orica utilises Swire Shipping to transport sodium cyanide from the Port of Brisbane to the Port of Tauranga (and Port of Auckland in exceptional circumstances).

Orica New Zealand Supply Chain		24 September 2012
Name of Facility	Signature of Lead Auditor	Date

1.2.3.2.3 Mediterranean Shipping Company

Mediterranean Shipping Company S.A. (MSC), of Geneva, Switzerland, is a privately owned shipping line, founded in 1970, which has rapidly grown from a small conventional ship operator to become on of the leading global shipping lines in the world. MSC is one of the few carriers able to offer worldwide coverage with one MSC bill of lading, allowing rapid movement of goods through dedicated transhipment hubs. MSC is the leading provider of direct port calls, serving six continents and calling at 335 ports through 200 direct and combined weekly liner services.

Orica utilises MSC to transport sodium cyanide from the Port of Brisbane to the Port of Tauranga (and Port of Auckland in exceptional circumstances).

1.2.3.2.4 Hamburg SUD

The Hamburg SUD Group ranks among the major providers of worldwide ocean transportation. It operates 148 ships and maintains a global inventory of some 338 000 containers in a wide array of sizes and configurations.

Hamburg SUD is accredited under ISO 9001 and ISO 14001.

Orica utilises Hamburg SUD to transport sodium cyanide from the Port of Brisbane to the Port of Tauranga (and Port of Auckland in exceptional circumstances).

1.2.3.3 Road Transportation

1.2.3.3.1 Mainfreight

Mainfreight was founded in 1978 and is a Global Supply Chain provider, specialising in Less Than Container Load (LCL) freight. The company has customers and 139 operating sites and 3 500 team members worldwide, principally in New Zealand, Australia, Asia and the United States, and provides approximately 20 000 customers with a full range of logistics requirements.

In 2003 Mainfreight bought a 79.6% stake in Owens Group Limited and consolidated the operations back to the core activity of transport and international freight forwarding. In July 2005, Mainfreight acquired the remaining shares.

Owens Group Limited is a fully integrated service company. The business incorporates a number of different brands with activities ranging from door-to-door domestic, international transportation and managed warehousing, through to specialist dangerous goods and temperature-controlled transport and warehousing.

Mainfreight will use Owens Group Limited's transport business unit, Owens Transport (Owens), in New Zealand to transport Orica's cyanide.

1.2.3.4 Cyanide Storage

1.2.3.4.1 Transit Storage

Within the scope of this audit, there are transit storages or trans-shipping depots associated with port operations where containers of cyanide are removed from vessels, temporarily stored and then placed on road vehicles for the next part of the journey. These transit storages or trans-shipping depots are managed by the relevant port authorities and due consideration of relevant protocol requirements has been made through the due diligence process.

There are no transit storages associated with New Zealand road transportation.

Orica New Zealand Supply Chain		24 September 2012
Name of Facility	Signature of Lead Auditor	Date

1.3 Auditors Findings and Attestation

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

Audit Company: Golder Associates Pty Ltd

Audit Team Leader: Edward Clerk, CEnvP (112), RABQSA (020778)

Email: eclerk@golder.com.au

Name and Signatures of Other Auditors:

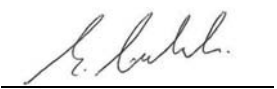
Name	Position	Signature	Date
Edward Clerk	Lead Auditor and Technical Specialist		24 September 2012
Russell Beazley	Auditing Support		24 September 2012

Dates of Audit:

This Orica New Zealand Supply Chain Certification Audit was assessed based on the following due diligence reports:

- Due diligence of Pacific International Lines. The due diligence was undertaken by Orica in August 2010 and was reviewed by Golder Associates Pty Ltd (Golder) in September 2010
- Due diligence of Swire Shipping. The due diligence was undertaken by Orica in July 2010 and was reviewed by Golder in September 2010
- Due diligence of Hamburg SUD. The due diligence was undertaken by Orica in August 2010 and was reviewed by Golder in September 2010
- Due diligence of Port of Tauranga, New Zealand. The due diligence was undertaken by Orica in December 2009 and was reviewed by Golder in September 2010
- Due diligence of Port of Auckland, New Zealand. The due diligence was undertaken by Orica in June 2010 and was reviewed by Golder in September 2010

The ICMI certified the Orica New Zealand Supply Chain on 8 November 2010. On 28 August 2012, Orica contacted Golder to request that the shipping line MSC be assessed against the International Cyanide Management Code (ICMC or the Code) for inclusion in the New Zealand Supply Chain. This revised summary audit report addresses the inclusion of MSC into the New Zealand Supply Chain.

Orica New Zealand Supply Chain		24 September 2012
Name of Facility	Signature of Lead Auditor	Date

The audit for the inclusion of MSC as a shipping line was undertaken on 11 September 2012, based on the following due diligence report:

- Due diligence of MSC Shipping. The due diligence was undertaken by Orica in February 2012.

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 *International Cyanide Management Code Verification Protocol for Cyanide Transportation Operations* and using standard and accepted practices for health, safety and environmental audits.

Orica New Zealand Supply Chain		24 September 2012
Name of Facility	Signature of Lead Auditor	Date

2.0 CONSIGNOR SUMMARY

2.1 Principle 1 – Transport

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

2.1.1 Transport Practice 1.1

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

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

Summarise the basis for this Finding/Deficiencies Identified:

The Orica New Zealand Supply Chain is in FULL COMPLIANCE with Transport Practice 1.1 requiring selection of cyanide transport routes to minimise the potential for accidents and releases.

Orica and Mainfreight

Orica has developed procedures and implemented them, in conjunction with Mainfreight, to guide the selection of transport routes to minimise the potential for accidents and releases, or the potential impacts of accidents and releases. These procedures require Orica and Mainfreight to consider, among other things, population density, infrastructure, road pitch and grade and the presence and prevalence of watercourses and fog during the assessment process.

Mainfreight, through Orica, evaluates the risks of selected cyanide transport routes and take the measures necessary to manage these risks. The evaluation and selection of the route/s is undertaken through a risk assessment process conducted in accordance with Australian Standard *AS 4360: 2004 Risk Management.* The risk assessments examined showed evidence of a detailed assessment process. Mitigation measures used to reduce risks to acceptable levels were detailed in the risk assessment documentation for the specific routes.

Mainfreight, in conjunction with Orica, has implemented a procedure and process to periodically re-evaluate routes used for cyanide deliveries. An Orica route feedback procedure requires its contractors to obtain feedback from transportation activities and provide it to Orica for the appropriate assessment and follow up on actions, as appropriate. In addition, the Mainfreight procedure for route assessment notes that route assessments will be reviewed when there is a route change, an incident, or biannually. Feedbacks on route conditions are also to be provided by drivers to Mainfreight through submittal of the *Cyanide Drivers Trip Log*.

Mainfreight, in conjunction with Orica, has documented the measures taken to address risks identified with the selected routes. This has been achieved through a documented route risk assessment process for each route, which outlines existing controls and additional mitigation measures for identified hazards along the route.

Mainfreight and Orica seek input from stakeholders and applicable governmental agencies as necessary in the selection of routes and development of risk management measures. The community is not directly consulted. Orica's *Selection of Transport Routes* procedure notes that the transportation methods to be utilised on a particular route are to consider regulatory requirements and competent authority instructions. Direct engagement of communities by Orica and Mainfreight within New Zealand has not occurred because:

Orica New Zealand Supply Chain		24 September 2012
Name of Facility	Signature of Lead Auditor	Date

- The sole Orica customer, Newmont Waihi Gold, extensively engages with the local community
- The community was not designated a role as part of the planned response to an emergency involving cyanide negating the need for community consultation on this issue
- The risk management measures implemented for the cyanide transportation are considered a high standard and negate the need for community consultation in the development of such measures

Where routes present special safety or security concerns, Orica ensures its transporters use convoys, escorts or other additional safety or security measures to address the concern. Through an operational area risk assessment to determine the need to transport cyanide in convoys, Orica determined that the level of risk within Australia and New Zealand did not warrant the use of convoys. Despite this, security measures are implemented by Orica for transportation of cyanide within New Zealand, including the use of locked and sealed containers, and constant monitoring of the location of isocontainers using a GPS tracking system.

The notification of external responders, medical facilities and communities of their roles and/or mutual aid during an emergency response is undertaken by Orica. According to Orica's SH&E Distribution Risk Manager the product customer (which is certified under the Code) is heavily engaged with the Waihi Fire Brigade regarding the transport of and use of cyanide at the mine. The second-in-command of the Brigade is also the dangerous goods trainer for the Fire Brigade area, which encompasses the transport route. In addition, Orica and Mainfreight are intending to conduct and emergency response exercise prior to the commencement of cyanide deliveries in September 2010. Relevant external responders will be invited to attend.

Orica contracts all transport within the scope of this audit to Mainfreight and their wholly owned subsidiary Owens. Orica's *Transport Management Plan* states that agents, distributors, transport companies and other parties contracted to Orica shall be responsible for implementing the Code, and contracts between Orica and these parties shall incorporate the obligations of each party in meeting the Code's requirements. Orica has a Service Level Agreement with Owens, which conforms to this requirement. In addition, the Orica *Transport Management Plan* notes no subcontractors (such as owner drivers) are to be engaged by Mainfreight without the prior approval of Orica and an appropriate assessment of the proposed subcontractor capabilities having been performed. Such an assessment has been conducted and Orica has granted approval for their use as subcontractor drivers. Mainfreight and Owens have Individual Employment Agreements with these drivers, which require the drivers to follow all policies, systems and procedures put in place by Mainfreight or Owens.

Pacific International Lines, Swire Shipping, Hamburg SUD and MSC

Orica takes into consideration the shipping services available to service the intended target area. 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 Brisbane to the destination country or continent. Orica uses Pacific International Lines, Swire Shipping, Hamburg SUD and MSC for its international shipping to New Zealand.

Orica does not have control of the routes taken by the shipping lines contracted to transport sodium cyanide. In selecting a route, shipping lines must take into account factors such as tides, currents, winds, storms and load compatibilities. To account for this variability, Orica has undertaken due diligence reviews of Pacific International Lines, Swire Shipping, Hamburg SUD and MSC to ensure that the shipments are in accordance with the IMO DG Code.

Orica New Zealand Supply Chain		24 September 2012
Name of Facility	Signature of Lead Auditor	Date

2.1.2 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**	
The operation is	☐ in substantial compliance with	**Transport Practice 1.2**
	☐ not in compliance with	

Summarise the basis for this Finding/Deficiencies Identified:

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

Orica and Mainfreight

Mainfreight use only trained, qualified and licensed operators to operate its transport vehicles. All Mainfreight drivers and subcontractors undergo medicals, company inductions and task specific training. Prior to commencement of cyanide transport activities, all drivers will through Orica's *Sodium Cyanide Safety Guidelines* presentation, obtain appropriate dangerous goods certification and be given training in the *Emergency Response Plan*.

Mainfreight and Orica ensure personnel operating cyanide handling and transport equipment have been trained to perform their jobs in a manner that minimises the potential for cyanide releases and exposures. Orica requires that all drivers undergo sodium cyanide awareness and emergency response training before they are allowed to transport cyanide. Mainfreight drivers are not required to sparge unload and will thus not be required to do the training. To date, Mainfreight has not begun transporting cyanide. As such, cyanide specific training is yet to be undertaken by their drivers.

Orica contracts all transport within the scope of this audit to Mainfreight and their wholly owned subsidiary Owens. Orica's *Transport Management Plan* states that agents, distributors, transport companies and other parties contracted to Orica shall be responsible for implementing the Code, and contracts between Orica and these parties shall incorporate the obligations of each party in meeting the Code's requirements. Orica has a Service Level Agreement with Owens, which conforms to this requirement. In addition, the Orica *Transport Management Plan* notes no subcontractors (such as owner drivers) are to be engaged by Mainfreight without the prior approval of Orica and an appropriate assessment of the proposed subcontractor capabilities having been performed. Such an assessment has been conducted and Orica has granted approval for their use as subcontractor drivers. Mainfreight and Owens have Individual Employment Agreements with these drivers, which require the drivers to follow all policies, systems and procedures put in place by Mainfreight or Owens.

Orica New Zealand Supply Chain		24 September 2012
Name of Facility	Signature of Lead Auditor	Date

2.1.3 Transport Practice 1.3

Ensure that transport equipment is suitable for the cyanide shipment.

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

Summarise the basis for this Finding/Deficiencies Identified:

The Orica New Zealand Supply Chain is in FULL COMPLIANCE with Transport Practice 1.3 requiring that transport equipment is suitable for the cyanide shipment.

Orica and Mainfreight

Mainfreight only uses equipment designed and maintained to operate within the loads it will be handling when transporting cyanide.

Mainfreight has procedures in place to verify the adequacy of the equipment for the load it must bear. Checks are completed as part of the scheduled servicing, daily checks and Certificate of Fitness inspections. The scheduled servicing includes checks on equipment to identify signs of stress or overloading. In addition, All vehicles and trailers within New Zealand must undergo six monthly Certificate of Fitness assessments as part of road traffic regulations. These inspections include the following with regards to load:

- Heavy Vehicles
  - Vehicle structure
  - Suspension systems
  - Towing connections
- Trailers
  - Load restraints
  - Certificate of loading

Mainfreight and Orica, has procedures in place to prevent overloading of the transport vehicle being used for handling cyanide. Mainfreight maintains a spreadsheet, which is provided to Orica, of transport prime movers and trailers dedicated to the transport of Orica freight containers, liquid isocontainers and sparge isocontainers. The spreadsheet includes the design capacities of the vehicles and trailers. This enables carrying capability to be determined for different configurations that may be utilised.

Orica contracts all transport within the scope of this audit to Mainfreight and their wholly owned subsidiary Owens. Orica's *Transport Management Plan* states that agents, distributors, transport companies and other parties contracted to Orica shall be responsible for implementing the Code, and contracts between Orica and these parties shall incorporate the obligations of each party in meeting the Code's requirements. Orica has a Service Level Agreement with Owens, which conforms to this requirement. In addition, the Orica *Transport Management Plan* notes no subcontractors (such as owner drivers) are to be engaged by Mainfreight without the prior approval of Orica and an appropriate assessment of the proposed subcontractor capabilities having been performed. Such an assessment has been conducted and Orica has granted approval for their use as subcontractor drivers. Mainfreight and Owens have Individual Employment Agreements with these drivers, which require the drivers to follow all policies, systems and procedures put in place by Mainfreight or Owens.

Orica New Zealand Supply Chain		24 September 2012
Name of Facility	Signature of Lead Auditor	Date

2.1.4 Transport Practice 1.4

Develop and implement a safety program for transport of cyanide.

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

Summarise the basis for this Finding/Deficiencies Identified:

The Orica New Zealand Supply Chain is in FULL COMPLIANCE with Transport Practice 1.4 requiring the development and implementation of a safety program for the transport of cyanide.

Orica and Mainfreight

Mainfreight and Orica have handling and inspection procedures to ensure that cyanide is transported in a manner that maintains the integrity of the producer's packaging. Mainfreight has checklists in place that require drivers to inspect the integrity of the containers and seals. The inspection is conducted when the driver turns the twist locks to secure the container onto the trailer. The seals are substantial non-reusable locks, which are numbered. The isocontainer number and seal numbers are recorded onto the checklists by the Driver. In addition, Orica operates a consignment note or deliver docket system whereby transport drivers are required to cross check the container and seal numbers with what is recorded on the delivery paperwork. The driver is to sign the consignment note, confirming that the numbers are correct and to obtain a customer signature confirming that the numbers have been cross checked upon delivery of the product.

Mainfreight, in conjunction with their subcontractors and Orica, uses placards or other signage to identify the shipment as cyanide, as required by local regulations and international standards. Vehicle placarding consists of Emergency Information Panels on the side and rear of the container, and a Class 6 Dangerous Goods placard on the front and the vehicle.

Mainfreight implements a safety program for cyanide transport that includes:

- A documented daily vehicle checklist that covers the prime mover and trailer with checks of vehicle roadworthiness, dangerous goods requirements, PPE, communication equipment, etc
- A preventive maintenance programme for prime movers and trailers (i.e. services after 10 000 km, 15 000 km and every 6 months)
- The limitation on driver hours via the tracking of daily run sheets and driver hours logbooks
- Cyanide is stowed into sparge isocontainers by Orica. Isocontainers are secured using twist locks, which are designed and constructed to international transport standards. This twist locks are checked by the driver prior to departure from the loading area
- Procedures by which transportation can be modified or suspended
- Drug and alcohol policy and testing regime
- The retention of records documenting that the above activities have been conducted

Orica contracts all transport within the scope of this audit to Mainfreight and their wholly owned subsidiary Owens. Orica's *Transport Management Plan* states that agents, distributors, transport companies and other

Orica New Zealand Supply Chain		24 September 2012
Name of Facility	Signature of Lead Auditor	Date

parties contracted to Orica shall be responsible for implementing the Code, and contracts between Orica and these parties shall incorporate the obligations of each party in meeting the Code's requirements. Orica has a Service Level Agreement with Owens, which conforms to this requirement. In addition, the Orica *Transport Management Plan* notes no subcontractors (such as owner drivers) are to be engaged by Mainfreight without the prior approval of Orica and an appropriate assessment of the proposed subcontractor capabilities having been performed. Such an assessment has been conducted and Orica has granted approval for their use as subcontractor drivers. Mainfreight and Owens have Individual Employment Agreements with these drivers, which require the drivers to follow all policies, systems and procedures put in place by Mainfreight or Owens.

2.1.5 Transport Practice 1.5

Follow international standards for transportation of cyanide by sea and air.

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

Summarise the basis for this Finding/Deficiencies Identified:

The Orica New Zealand Supply Chain is in FULL COMPLIANCE with Transport Practice 1.5 requiring the transport of cyanide by sea and air to follow international standards.

Orica and Mainfreight

All containers (i.e. freight containers of solids in IBCs, sparge isocontainers of solids for sparging or isocontainers of liquor) are placarded by Orica at the Yarwun Facility in accordance with the requirements of the IMDG Code with UN numbers, the Class 6 dangerous goods class label and the marine pollutant label. This level of placarding is consistent with the requirements of the *Australian Dangerous Goods* (ADG) *Code*.

Containers intended for sea transport have documentation prepared in accordance with the IMDG Code, which is faxed to the shipping agent. The normal road documentation prepared in accordance with the ADG Code accompanies the load on its road/rail voyage to either the Port of Brisbane.

No consignments of cyanide are transported by air within the scope of this audit. All consignments transported by Mainfreight are by road.

Pacific International Lines, Swire Shipping, Hamburg SUD and MSC

Due diligences of Pacific International Lines, Swire Shipping, Hamburg SUD and MSC conducted by Orica indicated that the shipping companies transported cyanide in compliance with the Dangerous Goods Code of the International Maritime Organisation. The due diligences specifically referenced provisions of the Dangerous Goods Code that are required to be addressed under this question, namely:

- 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?
- Operations personnel on the vessels on arrival at the loading port provide the Master with copies of the Dangerous Goods manifest (including stowage plan) and Packing Certificates for each of the hazardous cargo units loaded at that port.
- Does the ship carrying the cyanide have cyanide emergency response information, as required under Section 5.4.3.2 of the DG Code?

Orica New Zealand Supply Chain		24 September 2012
Name of Facility	Signature of Lead Auditor	Date

- Operations personnel from the shipping lines provide copies of emergency information together with the Dangerous Goods manifest (including stowage plan) and Packing Certificates for each hazardous cargo unit to be loaded at that port to the ship's Master.
- Does the ship comply with the stowage and separation requirements of Part 7 of the DG Code?
- The shipping lines comply with the requirements through the use of the MO 41 document. A copy of the MO 41 is provided to the operations for assigning the container reference numbers and sending the HAZCHEM bookings for finalisation. The tracking and monitoring systems of each shipping line record the UN classification (UN 1689), Dangerous Goods Class (6) and that the product is a marine pollutant. This information is used to determine the placement and segregation of the container on the vessel and handling through trans-shipment ports, if applicable. All containers (stipulated by their reference number) must be finalised by the vessel loading cut-off time. This requires the MO 41 to be provided between 48 and 24 hours prior to cut-off.
- Sodium cyanide solid is designated a "red line" cargo at the Port of Brisbane and is only loaded to the vessel when called in.

Shipping lines are required to provide the Port of Brisbane a detailed list of all containers with dangerous goods that are planned to be loaded onto a particular vessel. On plan approval it is passed onto the vessel operator (stevedore) for loading of the vessel.

2.1.6 Transport Practice 1.6

Track cyanide shipments to prevent losses during transport.

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

Summarise the basis for this Finding/Deficiencies Identified:

The Orica New Zealand Supply Chain is in FULL COMPLIANCE with Transport Practice 1.6 requiring the tracking of cyanide shipments to prevent losses during transport.

Orica and Mainfreight

Mainfreight and Orica have means to communicate with the transport company, the cyanide producer or distributor and/or emergency responders. Mainfreight vehicles use mobile phones and radio transmitters to communicate with the company and emergency responders. Communication between Mainfreight and Orica is via email, telephone and fax. All communications with the product customer is through Orica.

Communications equipment is checked by the Mainfreight drivers at the start of a shift (via the pre-start checklist) and through continuous use.

Along the routes used by Mainfreight to transport cyanide, one communications blackout area of approximately 10 km in length exists. Mainfreight has a Remote Area Communications procedure in place whereby drivers must contact the Operations Supervisor prior to entering the area and upon exiting the area. Should communications not be regained, there are a series of escalating steps with the procedure for the Operations Supervisor to follow.

Orica New Zealand Supply Chain		24 September 2012
Name of Facility	Signature of Lead Auditor	Date

Mainfreight and Orica have procedures to track the progress of cyanide shipments. Mainfreight will be installing a GPS tracking system in its vehicles to be used for cyanide transport. In the interim, drivers will carry handheld SPOT Satellite GPS Messenger systems. In addition, Orica has a GPS tracking system installed on its sparge units to enable Orica to keep track of journey progress and location on mine sites independently of its transporter.

Mainfreight and Orica have appropriate inventory controls and/or chain of custody documentation to prevent loss of cyanide during shipment. Inventory controls are the primary method of preventing product loss during shipment. These controls include the following:

- All products are weighed by Orica when placed into isocontainers, IBCs and freight containers
- Liquid cyanide and solid sparge cyanide is dyed so that any loss can be readily identified
- Consignments are rigorously identified and documented with each sparge isocontainer identified by a unique number
- All sparge isocontainers are locked with seals and the seal numbers recorded and checked by the consignee. Seals are also checked at transfer locations and on route
- The identifying container numbers are transmitted to the consignee (Mainfreight) and are checked off by the Orica representative (Mainfreight) on arrival

Shipping documentation indicating the amount of cyanide in transit and Material Safety Data Sheets (MSDS) are available during transport

Under New Zealand law, transport companies are required to carry the following in the vehicle cabin:

- Load plan schedule of weights and quantities
- Emergency procedures guide
- Dangerous goods guide

In addition, Orica requires that its transporters carry an MSDS for its product on all vehicles during transit.

Orica contracts all transport within the scope of this audit to Mainfreight and their wholly owned subsidiary Owens. Orica's *Transport Management Plan* states that agents, distributors, transport companies and other parties contracted to Orica shall be responsible for implementing the Code, and contracts between Orica and these parties shall incorporate the obligations of each party in meeting the Code's requirements. Orica has a Service Level Agreement with Owens, which conforms to this requirement. In addition, the Orica *Transport Management Plan* notes no subcontractors (such as owner drivers) are to be engaged by Mainfreight without the prior approval of Orica and an appropriate assessment of the proposed subcontractor capabilities having been performed. Such an assessment has been conducted and Orica has granted approval for their use as subcontractor drivers. Mainfreight and Owens have Individual Employment Agreements with these drivers, which require the drivers to follow all policies, systems and procedures put in place by Mainfreight or Owens.

Orica New Zealand Supply Chain		24 September 2012
Name of Facility	Signature of Lead Auditor	Date

2.2 Principle 2 – Interim Storage

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

2.2.1 Transport Practice 2.1

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

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

Summarise the basis for this Finding/Deficiencies Identified:

The Orica New Zealand Supply Chain is in FULL COMPLIANCE with Transport Practice 2.1 requiring transporters design, construct and operate cyanide trans-shipping depots and interim storage sites to prevent release and exposures.

Within the scope of this audit, there are transit storages or trans-shipping depots associated with port operations where containers of cyanide are removed from vessels, temporarily stored and then placed on road vehicles for the next part of the journey. These transit storages or trans-shipping depots are managed by the relevant port authorities and due consideration of relevant protocol requirements has been made through the due diligence process.

There are no transit storages associated with New Zealand road transportation.

Orica New Zealand Supply Chain		24 September 2012
Name of Facility	Signature of Lead Auditor	Date

2.3 Principle 3 – Emergency Response

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

2.3.1 Transport Practice 3.1

Prepare detailed Emergency Response Plans for potential cyanide releases.

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

Summarise the basis for this Finding/Deficiencies Identified:

The Orica New Zealand Supply Chain is in FULL COMPLIANCE with Standard of Practice 3.1 requiring the operation prepare detailed Emergency Response Plans for potential cyanide releases.

Orica and Mainfreight

Mainfreight has a Transport Emergency Response Plan (TERP). The purpose of the TERP is to provide a planned response to support the emergency services in managing a transport emergency.

The management of cyanide related emergencies is an integrated approach between Mainfreight and Orica, which is reflected through the referencing of Orica's Emergency Response Guide (ERG) within the TERP for additional guidance on cyanide related emergencies.

The emergency response plans are appropriate for the selected transportation route to all delivery locations. The incidents covered include:

- Vehicle Breakdown
- Minor Vehicle Incidents
- Major Vehicle Incident, Product Loss of Containment, Fire or Injury

The TERP does not consider the physical or chemical form of cyanide however the document directs the reader to contact Orica and refers to the ERG and the MSDS.

The ERG details specific responses for transport scenarios and the physical and chemical form of cyanide. The guide provides an approach to transport emergency scenarios considered credible by Orica over their transport routes. These scenarios cover issues related to the form of the cyanide involved in the accident and its chemistry including what chemicals are suitable to use in remediation.

The plans do consider the method of transport. TERP is developed around road transportation. Appendix 2 (Product Transportation and Storage) of the ERG details additional information on the method of transport. The specific emergency response guides detailed in Section 3 of the ERG consider the transportation of cyanide by road.

The plans consider all aspects of the transport infrastructure.

Orica and Mainfreight have undertaken route risk assessments from the Port of Tauranga to each mine delivery site and Orica has compiled route assessments that detail relevant transport infrastructure. The assessments were evaluated for:

Orica New Zealand Supply Chain		24 September 2012
Name of Facility	Signature of Lead Auditor	Date

- Load security
- Potential for vehicular accidents
- Residential areas
- Waterways
- Possible impact of road blockages/diversions, etc
- Quality and general conditions of the roads

The plans consider the design of the transport vehicle. The TERP is developed around road transportation. Appendix 2 (Product Transportation and Storage) of the ERG details additional information on the design of the transport vehicle. The specific emergency response guides detailed in Section 3 of the ERG consider the design of the transport vehicle.

The plans include descriptions of response actions, as appropriate for the anticipated emergency situation for transportation. Section 5 of the TERP details the responsibilities for the following positions:

- Drivers
- Sub-contractors (owner drivers)
- Operations Supervisors
- Incident Responders
- Incident Coordinator
- Owens Transport Managers
- Owens Transport Projects Manager
- Owens Transport Safety Manager

Responsibilities are detailed for first response as well as establishing control. The roles are responsibilities are also specific to the scenarios identified. Responsibilities specific to the drivers are also summarised within the Owens *Global Logistics Tankers Driver's Manual* which is carried within the truck.

The critical component of the emergency response process is the dedicated Orica Emergency Response Service (ERS) based in Melbourne. The ERG requires Orica ERS to be contacted in the event of an emergency involving cyanide.

The plan does identify the roles of outside responders, medical facilities or communities in emergency response procedures. The primary outside responders in the TERP are the emergency services who are involved through the use of '111' in an emergency. The only other outside responder is Orica and the Orica ERS service.

The ERG is the primary reference for the roles of outside responders to an incident. Appendix 6 (Orica Response to a Report of a Cyanide Incident) of the ERG details the initial actions to be undertaken including the interactions with emergency service providers such as police and fire brigade, determining if the leak is cyanide, and preventing the spread of contamination.

There is no storage of sodium cyanide within the scope of this audit.

Orica New Zealand Supply Chain		24 September 2012
Name of Facility	Signature of Lead Auditor	Date

2.3.2 Transport Practice 3.2

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

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

Summarise the basis for this Finding/Deficiencies Identified:

The Orica New Zealand Supply Chain is in FULL COMPLIANCE with Standard of Practice 3.2 requiring the operation designate appropriate response personnel and commit necessary resources for emergency response.

Orica and Mainfreight

Mainfreight provides emergency response training for appropriate personnel. A training matrix outlines the training requirements of all personnel associated with cyanide transportation. Training in the TERP is deemed mandatory. In addition, those undergoing TERP training also site an Orica Sodium Cyanide Safety presentation.

The plans include descriptions of the specific emergency response duties and responsibilities of personnel. The TERP provides a description of the responsibilities for Drivers, Subcontractors, Operations Supervisors, Incident Responder, Incident Coordinator, Transport Manager, Projects Manager, Safety Manager and External Responders.

Mainfreight has a list of all emergency equipment that should be available during transport or along the transport route.

The transporter has available the necessary emergency response and health and safety equipment, including personal protective equipment during transport. Mainfreight maintains three sets of equipment. One set is located with the transport vehicle and two sets are maintained at the depot.

The transport vehicle operators receive initial and periodic refresher training in emergency response procedures including implementation of the TERP. The Projects Manger stated that training on the TERP is provided as part of the induction. Refresher training is provided whenever a new revision of the TERP is developed. In addition, transport personnel (including drivers) are included in periodic mock drills, which include assessing the implementation of the TERP and identifying lessons learnt. Lessons learnt are communicated to drivers via their supervisors.

Mainfreight has formal procedures in place to inspect emergency response equipment and assure its availability when required. This includes weekly inspections by a management representative.

Orica contracts all transport within the scope of this audit to Mainfreight and their wholly owned subsidiary Owens. Orica's *Transport Management Plan* states that agents, distributors, transport companies and other parties contracted to Orica shall be responsible for implementing the Code, and contracts between Orica and these parties shall incorporate the obligations of each party in meeting the Code's requirements. Orica has a Service Level Agreement with Owens, which conforms to this requirement. In addition, the Orica *Transport Management Plan* notes no subcontractors (such as owner drivers) are to be engaged by Mainfreight without the prior approval of Orica and an appropriate assessment of the proposed subcontractor capabilities having been performed. Such an assessment has been conducted and Orica has granted approval for their use as

Orica New Zealand Supply Chain		24 September 2012
Name of Facility	Signature of Lead Auditor	Date

subcontractor drivers. Mainfreight and Owens have Individual Employment Agreements with these drivers, which require the drivers to follow all policies, systems and procedures put in place by Mainfreight or Owens.

2.3.3 Transport Practice 3.3

Develop procedures for internal and external emergency notification and reporting.

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

Summarise the basis for this Finding/Deficiencies Identified:

The Orica New Zealand Supply Chain is in FULL COMPLIANCE with Standard of Practice 3.3 requiring the operating develop procedures for internal and external emergency notification and reporting.

Orica and Mainfreight

The TERP requires notification of Emergency Services, Owens Operations Supervisor, the Orica ERS service and the receiver (Waihi Gold mine) in the event of a cyanide emergency during transport. Contact numbers for these are included in the TERP, which is carried by each driver.

There are systems in place to ensure that internal and external emergency notification and reporting procedures are kept current.

Section 8 of the TERP tasks the Owens Safety Manager with checking the currency of contact details on a six monthly basis.

In addition, the TERP is at least annually, or after significant changes to the operation or identified deficiencies following exercises or incidents.

The key contact phone numbers are also detailed on the Route Assessment Form. The Route Assessments are reviewed and revised yearly, or if a route changes, and this will include a check of the phone numbers.

Orica New Zealand Supply Chain		24 September 2012
Name of Facility	Signature of Lead Auditor	Date

2.3.4 Transport Practice 3.4

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

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

Summarise the basis for this Finding/Deficiencies Identified:

The Orica New Zealand Supply Chain is in FULL COMPLIANCE with Standard of Practice 3.4 requiring the operation develop procedures for remediation of releases that recognise the additional hazards of cyanide treatment.

Orica and Mainfreight

Mainfreight do not undertake the remediation or recovery of cyanide. In the event of an emergency drivers are to contact emergency services and the Operations Supervisor. Mainfreight's management will then contact Orica's ERS. The Section 11 (Product Recovery/Site Remediation) of the TERP notes that Orica procedures are to be used for remediation.

The ERG includes procedures for remediation, such as recovery or neutralisation of solutions or solids, decontamination of soils or other contaminated media and management of spill cleanup debris.

The procedure does prohibit the use of chemicals such as sodium hypochlorite, ferrous sulphate and hydrogen peroxide to treat cyanide that has been released into surface water.

Section 3.6 *(Sodium Cyanide Spill in a Waterway)* of the *ERG* notes at the start of the procedure states that:

> *"Orica Mining Chemicals subscribes to the recommendations of the International Cyanide Management Code in that no chemicals are to be added to a flowing waterway in the event of a cyanide spill as these may only exacerbate the situation with their own toxicity characteristics."*

Orica New Zealand Supply Chain		24 September 2012
Name of Facility	Signature of Lead Auditor	Date

2.3.5 Transport Practice 3.5

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

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

Summarise the basis for this Finding/Deficiencies Identified:

The Orica New Zealand Supply Chain is in FULL COMPLIANCE with Standard of Practice 3.5 requiring the operation periodically evaluate response procedures and capabilities and revise them as needed.

Orica and Mainfreight

There are provisions for periodically reviewing and evaluating the Plan's adequacy and they are being implemented.

Section 13.1 notes that the TERP shall be updated:

- At least annually
- After any deficiencies are identified during exercises or incidents
- Whenever a significant change is made to the operations (e.g. change to key personnel, suppliers, equipment, products, routes etc)

The ERG was undergoing a revision (Revision 2) at the time of the audit.

There are provisions for periodically conducting mock emergency drills and they are being implemented in some cases.

Section 12.3 (Exercises) of the TERP notes that regular exercises shall be conducted to ensure its effectiveness. Specifically the TERP states:

> *"Every six months a small scale exercise shall be conducted...where possible this should be conducted as a practical exercise.*
>
> *A desk-top exercise of a major incident will be conducted annually ...should involve external services..."*

A table top exercise involving a vehicle accident with a loaded prime mover was carried out on 25 August 2010.

Orica New Zealand Supply Chain		24 September 2012
Name of Facility	Signature of Lead Auditor	Date

3.0 PORT DUE DILLIGENCE SUMMARY

Orica conducts due diligence assessments of Ports utilised as part of their New Zealand Supply Chain. The following Transport Practices are assessed as part of the due diligence process:

- Transport Practice Element 1.1.1
- Transport Practice Element 1.1.2
- Transport Practice Element 1.1.3
- Transport Practice Element 1.1.4
- Transport Practice Element 1.1.6
- Transport Practice Element 1.5.1

The due diligence assessment consists of a questionnaire that is completed with the operator by a methodology of physical visits, interviews and discussions with appropriate personnel and review of applicable documentation. The assessment is conducted by posing and seeking information to address specific questions to cover the Transport Practice Elements mentioned above.

The due diligence assessments were found to reasonably evaluate the ports (discussed below), and additional management measures by the consigner were not considered necessary. The due diligence assessment review for the ports also found that the management of cyanide was in conformance with the Code.

3.1 Port of Tauranga

Orica undertook a due diligence assessment of Port Tauranga in December 2009. It is the largest port in the country in terms of total cargo volume, and the second largest in terms of container throughput. It is Orica's preferred port facility in New Zealand.

All containers (i.e. freight containers of solid sodium cyanide in IBCs and tank containers of solid sodium cyanide for sparging) arriving at the Port are placarded at Orica's cyanide production facility at Yarwun in accordance with the Australian Code for the Transport of Dangerous Goods by Road and Rail, 7th Edition, including UN Numbers, the Class 6 dangerous goods label and the environmentally hazardous material label.

The design of the purpose built bulk sparge isocontainers is approved for use on road and rail transport by the Competent Authority under the auspices of the ADG Code. In addition, the sparge isocontainers were designed in accordance with the requirements of Section 13 of the IDMG Code.

The facility is fenced, with CCTV and a 24 hour manned front gate. There are also roving security patrols throughout the container terminal.

An emergency response plan is in place, with personnel undergoing periodic training in its content.

The container terminal is bunded and stormwater valves are able to be closed at anytime should an incident occur. These valves are checked for operational purposes every six months as part of the site routine maintenance plan.

Containers are checked prior to loading onto vessels. This is reinforced to Port personnel through ongoing toolbox and safety meetings.

Orica New Zealand Supply Chain		24 September 2012
Name of Facility	Signature of Lead Auditor	Date

The due diligence concluded that the Port of Brisbane does meet Orica's operational requirements.

3.2 Port of Auckland

A due diligence assessment of the Port of Auckland was undertaken by Orica in June 2010. This port is only used by Orica to receive shipped sodium cyanide in exceptional circumstances, with the Port of Tauranga being the preferred shipping destination.

All containers (i.e. freight containers of solid sodium cyanide in IBCs and tank containers of solid sodium cyanide for sparging) arriving at the Port are placarded at Orica's cyanide production facility at Yarwun in accordance with the Australian Code for the Transport of Dangerous Goods by Road and Rail, 7th Edition, including UN Numbers, the Class 6 dangerous goods label and the environmentally hazardous material label.

The design of the purpose built bulk sparge isocontainers is approved for use on road and rail transport by the Competent Authority under the auspices of the ADG Code. In addition, the sparge isocontainers were designed in accordance with the requirements of Section 13 of the IDMG Code.

The government appointed maritime regulation body, Maritime New Zealand, has verified that the Port is compliant with the requirements outlined in the International Ship and Port Facility Security Code.

An emergency response plan is maintained at the Port and is reviewed by the Port SHE Committee following any incident. The plan has provisions for training and mock drills. The last drill involved responding to a leaking container on the wharf.

The Port has a dedicated dangerous goods temporary storage area with segregation protocols in place.

Orica has determined through their due diligence assessment that the Port of Auckland meets their operational requirements.

4.0 SEA TRANSPORT DUE DILLIGENCE SUMMARY

Orica conducts due diligence assessments of shipping operations utilised as part of their New Zealand Supply Chain. The following Transport Practices are assessed as part of the due diligence process:

- Transport Practice 1.1
- Transport Practice 1.5
- Transport Practice 1.6

The due diligence assessment consists of a questionnaire that is completed with the operator by a methodology of physical visits, interviews and discussions with appropriate personnel and review of applicable documentation. The assessment is conducted by posing and seeking information to address specific questions to cover the Transport Practices mentioned above.

The due diligence assessments were found to reasonably evaluate the shipping operations (discussed below), and additional management measures by the consigner were not considered necessary. The due diligence assessment review for the shipping operations also found that the management of cyanide was in conformance with the Code.

Orica New Zealand Supply Chain		24 September 2012
Name of Facility	Signature of Lead Auditor	Date

4.1 Pacific Lines International

A due diligence assessment of Pacific International Lines was undertaken by Orica in August 2010. Pacific International Lines 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 (Port of Brisbane) by the stevedoring company and removed at the port of destination by the stevedoring company at that port.

The international sales and export of solid sodium cyanide takes into consideration the shipping services available to service the intended target area. 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 Brisbane to the destination country or continent. Orica mainly uses PIL for its international shipping to New Zealand due to its selection of services available and its weekly shipping schedule from Brisbane.

The route from the Port of Brisbane to New Zealand not definitive as ships can take varying routes to arrive at the same destination as they take into account tides, currents, wind and storms.

Orica's product is packaged into purpose designed and built and product dedicated bulk sparge isocontainers or into IBCs contained with 20 foot general purpose shipping containers. Bulk sparge isocontainers are rated for sea transportation and inspected by Bureau Veritas under the 2.5 and 5 year inspection regime in accordance with IMDG Code requirements. IBCs consist of a 1 300 kg bulk bag contained within a hermetically sealed plastic liner, placed in a wooden outer with an integral pallet base. As per the IMDG Code this packaging is referenced as UN/11HD2/X/05-06/AUS/Orica-30596/7020/1300 under the approval of the Competent Authority.

Bulk sparge isocontainers and shipping containers containing IBCs are placarded with an EIP detailing the proper shipping name, dangerous goods class number, UN number, HAZCHEM Code and emergency contact information. Containers are also placarded with the marine pollutant markings.

Each shipment has appropriate documentation, including shipping manifest, load/stowage plan and emergency response information.

Procedures are in place that requires compliance with the stowage and separation requirements of Chapter 7 of the IMDG Code.

Pacific International Lines vessels have continuous means of tracking and communication during their voyages. They also have their own in-house tracking systems for tracking freight, which is linked by the container number and Bill of Lading (BOL) number.

The Australian Maritime Safety Authority (AMSA) is responsible for implementing International Maritime Organisation (IMO) regulations for all safety related aspects of marine carriage of all types including bulk liquid and solid cargoes, dangerous goods, general cargoes, containers, as well as standards and operations concerning cargo lifting gear. AMSA personnel may board a ship at any time to inspect and detain un-seaworthy or substandard ships.

Through its due diligence assessment, Orica has found no issues of concern in regards to Pacific International Lines management and shipping of the solid sodium product. It notes that the due diligence is not a final acceptance of Pacific International Lines for future work and, as with all service providers to Orica, Orica will continue to review and monitor their performance.

Orica New Zealand Supply Chain		24 September 2012
Name of Facility	Signature of Lead Auditor	Date

4.2 Swire Shipping

Orica undertook a due diligence assessment of Swire Shipping in July 2010. 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 (Port of Brisbane) by the stevedoring company and removed at the port of destination by the stevedoring company at that port.

The international sales and export of solid sodium cyanide takes into consideration the shipping services available to service the intended target area. 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 Brisbane to the destination country or continent. Orica mainly uses Pacific International Lines for its international shipping to New Zealand. If they are not available, then Swire Shipping is the second choice carrier.

The route from the Port of Brisbane to New Zealand not definitive as ships can take varying routes to arrive at the same destination as they take into account tides, currents, wind and storms.

Orica's product is packaged into purpose designed and built and product dedicated bulk sparge isocontainers or into IBCs contained with 20 foot general purpose shipping containers. Bulk sparge isocontainers are rated for sea transportation and inspected by Bureau Veritas under the 2.5 and 5 year inspection regime in accordance with IMDG Code requirements. IBCs consist of a 1 300 kg bulk bag contained within a hermetically sealed plastic liner, placed in a wooden outer with an integral pallet base. As per the IMDG Code this packaging is referenced as UN/11HD2/X/05-06/AUS/Orica-30596/7020/1300 under the approval of the Competent Authority.

Bulk sparge isocontainers and shipping containers containing IBCs are placarded with an EIP detailing the proper shipping name, dangerous goods class number, UN number, HAZCHEM Code and emergency contact information. Containers are also placarded with the marine pollutant markings.

Swire Shipping vessels on arrival at port provide the Port Master with copies of the Dangerous Goods manifest (including stowage plan), Packing Certificates for each of the hazardous cargo unit and Emergency Information.

Procedures are in place that requires compliance with the stowage and separation requirements of Chapter 7 of the IMDG Code.

Swire Shipping vessels have continuous means of tracking and communication during their voyages. They also have their own in-house tracking systems for tracking freight, which is linked by the container number and BOL number.

The AMSA is responsible for implementing IMO regulations for all safety related aspects of marine carriage of all types including bulk liquid and solid cargoes, dangerous goods, general cargoes, containers, as well as standards and operations concerning cargo lifting gear. AMSA personnel may board a ship at any time to inspect and detain un-seaworthy or substandard ships.

Through its due diligence assessment, Orica has found no issues of concern in regards to Swire Shipping management and shipping of the solid sodium product. It notes that the due diligence is not a final acceptance of Swire Shipping for future work and, as with all service providers to Orica, Orica will continue to review and monitor their performance.

Orica New Zealand Supply Chain		24 September 2012
Name of Facility	Signature of Lead Auditor	Date

4.3 Hamburg SUD

A due diligence assessment of Hamburg SUD was undertaken by Orica in August 2010. Hamburg SUD 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 (Port of Brisbane) by the stevedoring company and removed at the port of destination by the stevedoring company at that port.

The international sales and export of solid sodium cyanide takes into consideration the shipping services available to service the intended target area. 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 Brisbane to the destination country or continent. Orica mainly uses Pacific International Lines for its international shipping to New Zealand. If they or Swire Shipping are not available, then Orica will utilise Hamburg SUD.

The route from the Port of Brisbane to New Zealand not definitive as ships can take varying routes to arrive at the same destination as they take into account tides, currents, wind and storms.

Orica's product is packaged into purpose designed and built and product dedicated bulk sparge isocontainers or into IBCs contained with 20 foot general purpose shipping containers. Bulk sparge isocontainers are rated for sea transportation and inspected by Bureau Veritas under the 2.5 and 5 year inspection regime in accordance with IMDG Code requirements. IBCs consist of a 1 300 kg bulk bag contained within a hermetically sealed plastic liner, placed in a wooden outer with an integral pallet base. As per the IMDG Code this packaging is referenced as UN/11HD2/X/05-06/AUS/Orica-30596/7020/1300 under the approval of the Competent Authority.

Bulk sparge isocontainers and shipping containers containing IBCs are placarded with an EIP detailing the proper shipping name, dangerous goods class number, UN number, HAZCHEM Code and emergency contact information. Containers are also placarded with the marine pollutant markings.

Each shipment has appropriate documentation, including shipping manifest, load/stowage plan and emergency response information.

Procedures are in place that requires compliance with the stowage and separation requirements of Chapter 7 of the IMDG Code.

Hamburg SUD vessels have continuous means of tracking and communication during their voyages. They also have their own in-house tracking systems for tracking freight, which is linked by the container number and BOL number.

The AMSA is responsible for implementing IMO regulations for all safety related aspects of marine carriage of all types including bulk liquid and solid cargoes, dangerous goods, general cargoes, containers, as well as standards and operations concerning cargo lifting gear. AMSA personnel may board a ship at any time to inspect and detain un-seaworthy or substandard ships.

Through its due diligence assessment, Orica has found no issues of concern in regards to Hamburg SUD management and shipping of the solid sodium product. It notes that the due diligence is not a final acceptance of Hamburg SUD for future work and, as with all service providers to Orica, Orica will continue to review and monitor their performance.

Orica New Zealand Supply Chain		24 September 2012
Name of Facility	Signature of Lead Auditor	Date

4.4 Mediterranean Shipping Company

A due diligence assessment of MSC was undertaken by Orica in February 2012. 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 (Port of Brisbane) by the stevedoring company and removed at the port of destination by the stevedoring company at that port.

The international sales and export of solid sodium cyanide takes into consideration the shipping services available to service the intended target area. 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 Brisbane to the destination country or continent. Orica mainly uses MSC Shipping for its international shipping to East African ports due to its selection of services available from the Port of Brisbane.

The route from the Port of Brisbane to destination ports is not definitive as ships can take varying routes to arrive at the same destination as they take into account tides, currents, wind and storms.

Orica's product is packaged into bulk sparge isocontainers or composite intermediate bulk containers (IBCs) consisting of a 1 300 kg bulk bag contained within a hermetically sealed plastic liner, placed in a wooden outer with an integral pallet base with a wooden lid and strapped. As per the IMDG Code this packaging is referenced as UN/11HD2/X/****/AUS/Orica-30596/7020/1300 under the approval of the Competent Authority (where **** indicates the date the IBC was filled).

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

Operations personnel on the MSC vessels on arrival at the loading port provide the Master with copies of the Dangerous Goods manifest (including stowage plan and emergency information) and Packing Certificates for each of the hazardous cargo units loaded at that port.

MSC vessels have continuous means of tracking and communication during their voyages. In addition, MSC has their own in-house tracking systems for tracking freight which is linked by the specific container number and BOL number. Orica has access to this tracking system via its contracted Freight Forwarder.

The AMSA is responsible for implementing IMO regulations for all safety related aspects of marine carriage of all types including bulk liquid and solid cargoes, dangerous goods, general cargoes, containers, as well as standards and operations concerning cargo lifting gear. AMSA personnel may board a ship at any time to inspect and detain un-seaworthy or substandard ships. Under provisions of the International Convention for the Safety of Life at Sea (SOLAS), 1974 Chapter 1 and Chapter VII, ships are subject to port state control inspections during which compliance with cargo requirements including stowage, segregation, packaging and documentation is verified. AMSA marine surveyors may board a ship at any time to inspect and detail un-seaworthy or sub-standard ships.

The Orica due diligence report concludes:

> *"Orica through its dealings with MSC Shipping has found them to be a highly professional shipping organisation…. The ongoing review as a service provider and this due diligence review has found no issues of concern in regards to MSC Shipping's management and the shipping of solid sodium cyanide product. The review is not a final acceptance of MSC Shipping for future work and as with all service providers to Orica, Orica will continue to review and monitor their performance.*

Orica New Zealand Supply Chain		24 September 2012
Name of Facility	Signature of Lead Auditor	Date

Any changes in state, national or international regulations, standards or laws can result in a total review of the international shipping requirements.

As mentioned in the guidance notes, Orica is no able to conduct inspections and checks on shipping vessels readily due to port safety and security issues. The Australian Government through the Australian Maritime Safety Authority (AMSA) and State Government through the Port State Control (PSC) do however inspect and monitor cargo vessels that frequent Australian ports. These inspections ensure vessels are seaworthy, do not pose a pollution risk, provide healthy and safe work environments and comply with relevant international regulations. These inspections are not only carried out at Australian ports but internationally and set the operating standards for the international shipping companies."

5.0 LIMITATIONS

Your attention is drawn to the document - "Limitations", which is included as Appendix A to this report. This document is intended to assist you in ensuring that your expectations of this report are realistic, and that you understand the inherent limitations of a report of this nature. If you are uncertain as to whether this report is appropriate for any particular purpose please discuss this issue with us.

Orica New Zealand Supply Chain		24 September 2012
Name of Facility	Signature of Lead Auditor	Date

Report Signature Page

GOLDER ASSOCIATES PTY LTD

Ed Clerk
ICMI Lead Auditor and Technical Specialist

RJB/EWC/eh

A.B.N. 64 006 107 857

j:\env\2012\127643084 - orica nz supply chain amendment\correspondence out\127643084-002-r-rev0 - orica nz supply chain sar.docx

APPENDIX A

Limitations

LIMITATIONS

This Document has been provided by Golder Associates Pty Ltd ("Golder") subject to the following limitations:

This Document has been prepared for the particular purpose outlined in Golder's proposal and no responsibility is accepted for the use of this Document, in whole or in part, in other contexts or for any other purpose.

The scope and the period of Golder's Services are as described in Golder's proposal, and are subject to restrictions and limitations. Golder did not perform a complete assessment of all possible conditions or circumstances that may exist at the site referenced in the Document. If a service is not expressly indicated, do not assume it has been provided. If a matter is not addressed, do not assume that any determination has been made by Golder in regards to it.

Conditions may exist which were undetectable given the limited nature of the enquiry Golder was retained to undertake with respect to the site. Variations in conditions may occur between investigatory locations, and there may be special conditions pertaining to the site which have not been revealed by the investigation and which have not therefore been taken into account in the Document. Accordingly, additional studies and actions may be required.

In addition, it is recognised that the passage of time affects the information and assessment provided in this Document. Golder's opinions are based upon information that existed at the time of the production of the Document. It is understood that the Services provided allowed Golder to form no more than an opinion of the actual conditions of the site at the time the site was visited and cannot be used to assess the effect of any subsequent changes in the quality of the site, or its surroundings, or any laws or regulations.

Any assessments made in this Document are based on the conditions indicated from published sources and the investigation described. No warranty is included, either express or implied, that the actual conditions will conform exactly to the assessments contained in this Document.

Where data supplied by the client or other external sources, including previous site investigation data, have been used, it has been assumed that the information is correct unless otherwise stated. No responsibility is accepted by Golder for incomplete or inaccurate data supplied by others.

Golder may have retained subconsultants affiliated with Golder to provide Services for the benefit of Golder. To the maximum extent allowed by law, the Client acknowledges and agrees it will not have any direct legal recourse to, and waives any claim, demand, or cause of action against, Golder's affiliated companies, and their employees, officers and directors.

This Document is provided for sole use by the Client and is confidential to it and its professional advisers. No responsibility whatsoever for the contents of this Document will be accepted to any person other than the Client. Any use which a third party makes of this Document, or any reliance on or decisions to be made based on it, is the responsibility of such third parties. Golder accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this Document.

At Golder Associates we strive to be the most respected global company providing consulting, design, and construction services in earth, environment, and related areas of energy. Employee owned since our formation in 1960, our focus, unique culture and operating environment offer opportunities and the freedom to excel, which attracts the leading specialists in our fields. Golder professionals take the time to build an understanding of client needs and of the specific environments in which they operate. We continue to expand our technical capabilities and have experienced steady growth with employees who operate from offices located throughout Africa, Asia, Australasia, Europe, North America, and South America.

Africa	+ 27 11 254 4800
Asia	+ 86 21 6258 5522
Australasia	+ 61 3 8862 3500
Europe	+ 356 21 42 30 20
North America	+ 1 800 275 3281
South America	+ 55 21 3095 9500

solutions@golder.com
www.golder.com

Golder Associates Pty Ltd
Level 3, 1 Havelock Street
West Perth, Western Australia 6005
Australia
T: +61 8 9213 7600

Golder Associates