



August 2014

INTERNATIONAL CYANIDE MANAGEMENT
CODE CYANIDE

Orica Australia Limited
East Africa Supply Chain
Recertification Audit,
Summary Audit Report

Submitted to:

International Cyanide Management Institute
(ICMI)
1400 I Street, NW-Suite 550
Washington, DC 20005
UNITED STATES OF AMERICA

Orica Australia Pty Ltd
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REPORT

Report Number. 147648010-003-R-Rev1

Distribution:

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





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1.0 INTRODUCTION

1.1 Operational Information

Name of Transportation Facility:	Orica East Africa Supply Chain
Name of Facility Owner:	Not Applicable
Name of Facility Operator:	Orica Australia Ltd
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1.2 Description of Operation

1.2.1 Sodium Cyanide Transportation

The East Africa Supply Chain covers the transportation of containerised intermediate bulk containers (IBCs) from the Ports of Brisbane and Melbourne (Australian Ports), Australia to the Ports of Dar es Salaam, Tanzania, and Mombasa, Kenya, using Mediterranean Shipping Company (MSC).

Within East Africa, road contractors are engaged by Orica to transport cyanide from the Ports of Dar es Salaam, Tanzania, and Mombasa, Kenya, by road to gold mines in Tanzania.

The transportation of cyanide along Orica's East Africa Supply Chain to gold mining customers in Tanzania is coordinated from Orica's Yarwun cyanide production facility (Yarwun Facility).

1.2.2 Orica Australia Limited

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'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.

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1.2.2.1 Yarwun 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.

Solid sodium cyanide is packaged in either sparge isotainers, which have a maximum gross weight of 26 tonnes, or IBCs, which in turn, are packed into a container. A maximum of 20 IBCs can be packed into a freight container 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 within Australia, Asia, Africa, Papua New Guinea, New Zealand, Solomon Islands and South America.

Orica's Yarwun Facility was re-certified as being in full compliance with the Code on 29 October 2013.

1.2.3 Marine Transportation

1.2.3.1 Mediterranean Shipping Company

MSC, headquartered in Geneva, Switzerland, is engaged in the worldwide transport of containers. As 2013, MSC operated 460 container vessels with the capacity to handle the equivalent capacity of 2 240 000, 20 foot containers.

Shipping destinations include ports in Africa, Asia, North America, the Middle East and Oceania. MSC Shipping is a carrier service providing international shipping of containers on a fleet of their container vessels. All of MSC'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. This registration is a requirement of the Australian *Customs Act 1901*.

1.2.4 Ports

1.2.4.1 Port of Dar es Salaam, Tanzania

The Port of Dar es Salaam is the principal port of Tanzania with a rated capacity of 4.1 million (dwt) dry cargo and 6.0 million (dwt) bulk liquid cargo. The Port has a total quay length of about 2 000 metres with eleven deep-water berths. Dar es Salaam port handles about 95% of the Tanzania's international trade. The port serves the landlocked countries of Malawi, Zambia, Democratic Republic of Congo, Burundi, Rwanda and Uganda. The port is strategically placed to serve as a convenient freight linkage not only to and from East and Central Africa countries but also to middle and Far East, Europe, Australia and America.

The Tanzania Ports Authority owns the Port of Dar es Salaam and several other ports in Tanzania, including all of the country's lake ports. The Tanzania Ports Authority was created in 2005 to coordinate the country's system of harbours, provide harbor facilities and services, construct new harbours, operate and maintain navigational aids, provide warehouse services for cargo, to act as carriers of goods or passengers, and to provide facilities and amenities for port users.

Tanzania International Container Terminal Services Ltd (TICTS) manages the container handling activities at berths 8, 9, 10 and 11 and the Inland Container Depots at Kurasini and Ubungu.

Orica uses MSC to transport its shipments to the Port of Dar es Salaam in Tanzania.

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1.2.4.2 Port of Mombasa, Kenya

The Port of Mombasa is utilised for transit through to only one end user destination, North Mara, due to its location within Tanzania. The Port of Mombasa is a key port in East Africa for access to other land-locked countries in the region. The Port of Mombasa is controlled by the Kenya Maritime Authority (KMA) which was established with the mandate to regulate, coordinate and oversee maritime affairs in Kenya.

The port consists of 16 deep water berths, two bulk oil jetties, one cased oil berth, five container berths, two bulk cement berths and two lighterage and dhow wharves.

Container traffic is the dominant cargo stream at the port, with just under 900 000 twenty-foot equivalent units (TEU) handled in 2013.

Orica uses MSC to transport its shipments to the Mombasa, Kenya.

1.2.5 Road Transportation

Orica contracts all road transportation within the East Africa Supply Chain to FFT and FFK where deliveries are affected on behalf of Orica Mining Chemicals.

Road transportation from the ports of Dar es Salaam and Mombasa are effected by end user arranged transportation.

1.2.5.1 Freight Forwarders Tanzania

FFT is a freight forwarding and transportation organisation within Dar es Salaam and other areas of Tanzania.

Freight Forwarders Tanzania views itself as a market leader in the Clearing and Forwarding Industry in East Africa and the company's Vision Statement notes that FFT is to maintain its reputation for excellence by providing superior logistics services in a professional and competitive manner. FFT's sister company, FFK is closely linked with FFT.

FFT provides the following services:

- Clearing and forwarding
- Maritime and port operations management
- Handling and warehousing
- Transport and delivery.

At the time of the audit, FFT transported Orica's solid sodium cyanide to:

- Tulawaka Gold Mine in Tanzania
- Buzwagi Gold Mine in Tanzania
- Bulyanhulu Gold Mine in Tanzania
- Geita Gold Mine in Tanzania.

FFT was recertified as being fully compliant with the Code on 28 September 2011.

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1.2.5.2 Freight Forwarders Kenya

FFK was incorporated in 1973 following the amalgamation of three prominent Clearing and Forwarding Agents, namely Kenya General Agency Ltd, Reynolds and Co. Ltd and Wafco Ltd.

FFK is a member of the Kenya International Clearing, Forwarding and Warehousing Association and was a founder member of the Association's predecessor, the Kenya Clearing, Forwarding and Warehousing Association.

With 30 years of experience, FFK has developed a network of subsidiaries and agents enabling the organisation to offer a range of clearing, forwarding and logistics services:

- Customs clearance
- Marine services
- Warehousing
- Transportation
- Procurement services
- Communications.

At the time of the audit, FFK transported Orica's solid sodium cyanide to:

- North Mara Gold Mine in Tanzania.

FFK was certified as being fully compliant with the Code on 28 September 2011.

1.3 Transit Storage

Storage in transit does occur at Ports identified in Section 1.2.4 whilst formalities such as customs clearance, quarantine checks and carrier releases are performed. Once formalities are complete, the cyanide containers are collected by the respective road transporters. At no stage along the East Africa Supply Chain is cyanide removed from the trucks or containers prior to unloading at customer mine sites.

Depending on weather, cargo types and other operational matters, shipping lines 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 with Orica's solid sodium cyanide. Orica has no control over when and where this happens, but through its due diligence assessments it has satisfied itself that the shipping line used (MSC) undertakes the shipping of its product in accordance with the International Dangerous Goods Code (IMO DG Code) and in a professional manner. This extends to the selection of terminals for trans-shipping.

Trans-shipping ports used include:

- MSC
 - Port of Singapore
 - Port of Durban.

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1.4 Auditors Findings and Attestation

Orica East Africa Supply Chain is: in full compliance with **The International Cyanide Management Code**
 in substantial compliance with
 not in compliance with

Audit Company: Golder Associates
Audit Team Leader: Mike Woods, Exemplar Global (113792)
Email: mwoods@golder.com.au

Orica’s East Africa Supply Chain did not experience any significant cyanide incidents or compliance problems during the previous three year audit cycle.

1.5 Name and Signatures of Other Auditors:

Name	Position	Signature
Mike Woods	Lead Auditor and Technical Specialist	
Russell Beazley	Auditor	

1.6 Dates of Audit

The Orica East Africa Supply Chain Certification Audit was undertaken on 4 April 2014 based on the following due diligence reports:

- Due diligence review MSC. The due diligence was undertaken by Orica on 23 September 2013
- Due diligence review Dar es Salaam Port, Kenya. The due diligence was undertaken by Orica in 28 August 2013
- Due diligence review Mombasa Port, Kenya. The due diligence was undertaken by Orica in 27 August 2013.

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 East Africa Supply Chain 
 Name of Facility Signature of Lead Auditor 25 August 2014
 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.

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

Summarise the basis for this Finding/Deficiencies Identified:

The Orica East Africa 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

Orica has developed procedures to guide the selection of transport routes to minimise the potential for accidents and releases, or the potential impacts of accidents and releases. Routes are selected by Orica’s Supply Chain Compliance Coordinator in consultation with Orica’s transport contractors and customers and with reference to *Sodium Cyanide Transport Management Policies* and the *Selection of Transport Routes – Transportation of Sodium Cyanide (NaCN) to Customer Sites or Stock Points* procedure.

Orica has developed procedures to evaluate 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. Risk assessments are undertaken for all route alternatives selected for assessment. Additionally, route risk assessments are also undertaken for product loading and departure, product storage, and product unloading and delivery. Mitigation measures used to reduce risks to acceptable levels were detailed in the risk assessment documentation for the specific routes.

Orica has implemented a procedure to periodically re-evaluate routes used for cyanide deliveries. The *Transport Routes – Route Conditions and Transportation Agency Feedback* procedure was developed by Orica to ensure that relevant feedback from transportation agencies relating to routes utilised for the movement of cyanide is provided to Orica for assessment and follow up on actions, as appropriate.

Orica has documented the measures taken to address risks identified with the selected routes and developed procedures to evaluate the risks of selected cyanide transport routes and take the measures necessary to manage these risks. Mitigation measures are then detailed in the risk assessment documentation of the transport contractor.

Orica, in conjunction with its road transport contractor, seeks input from stakeholders and applicable governmental agencies as necessary in the selection of routes and development of risk management measures.

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Where routes present special safety or security concerns, Orica ensures the transport contractor uses convoys, escorts or other additional safety or security measures to address the concern. East Africa is assessed by Orica as having a risk rating of Level II and all containers are transported under escorted convoy conditions. Security measures implemented by Orica for transportation of cyanide within the East Africa Supply Chain include the use of locked and sealed containers, and constant monitoring and reporting of the progress of the convoy by the transport contractors.

Orica, through its transport contractor, has advised external responders, medical facilities and communities as necessary of their roles during an emergency response. Orica's *Sodium Cyanide Transport Management Plan* notes that emergency response responsibility will extend only to aspects of supply to which Orica is contractually responsible, however, Orica will work with all customers and assist where possible in maintaining an emergency response plan and provide specialist advice in the event of any emergency. The *Sodium Cyanide Transport Management Plan* also notes that agents, distributors and transport companies shall have an appropriate emergency response plan for handling any sodium cyanide incident that falls within their contractual responsibility. The emergency response plan shall address the entire delivery route.

Orica's *Management of Contracted Operations* procedure that defines the requirements for the management of contractors who conduct product-related operations on behalf of Orica. Such operations include the transport of sodium cyanide. The procedure guides the contractor selection process, preparation of contracts/agreements, monitoring and measurement and management of change of contractors.

Orica's road transporters contracts have conditions stating that said contractor is responsible for the implementation of the Code within its business. Orica's *Carrier Assessment Questionnaire* is used to assess the compliance of contracted entities against contract/agreement requirements. Completed assessments for FFT and FFK were available for review.

Freight Forwarders Tanzania

FFT was certified as being fully compliant with the Code on 28 September 2011.

Freight Forwarders Kenya

FFK was certified as being fully compliant with the Code on 28 September 2011.

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 Australian Ports to the destination country or continent. Orica uses MSC for its international shipping to East Africa due to its selection of services available from the Australian Ports.

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 MSC to ensure that the shipments are in accordance with the International Maritime Organisation Dangerous Goods (IMO DG) Code.

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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 East Africa 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

Orica does not employ transport drivers or directly operate transport vehicles in its East Africa Supply Chain, this is undertaken by its contractors FFT and FFK. Despite this, Orica does ensure its transport contractors and subcontractors use only trained, qualified and licensed operators to operate its transport vehicles.

Orica's *Sodium Cyanide 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 Mining Chemicals and these parties shall incorporate the obligations of each party in meeting the Code's requirements.

Orica's *Sodium Cyanide Transport Management Plan* clearly describes the minimum training standards expected by Orica in the transportation of cyanide. The document also notes that where subcontractors are utilised by prime contracted agencies, the prime contractor is to have an appropriate procedure to ensure that all relevant subcontractor personnel meet the specified training requirements.

Orica's *Management of Contracted Operations* procedure defines the requirements for the management of contractors who conduct product-related operations on behalf of Orica. Such operations include the transport of sodium cyanide. The procedure guides the contractor selection process, preparation of contracts/agreements, monitoring and measurement and management of change of contractors.

Orica's road transporters contracts have conditions stating that said contractor is responsible for the implementation of the Code within its business. Orica's *Carrier Assessment Questionnaire* is used to assess the compliance of contracted entities against contract/agreement requirements. Completed assessments for FFT and FFK were available for review.

Freight Forwarders Tanzania

FFT was certified as being fully compliant with the Code on 28 September 2011.

Freight Forwarders Kenya

FFK was certified as being fully compliant with the Code on 28 September 2011.

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2.1.3 Transport Practice 1.3

Ensure that transport equipment is suitable for the cyanide shipment.

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

Summarise the basis for this Finding/Deficiencies Identified:

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

Orica

Orica does not directly operate transport vehicles in its East Africa Supply Chain, this is undertaken by FFT and FFK.

Orica does ensure that contractors only uses equipment designed and maintained to operate within the loads it will be handling. Orica’s *Sodium Cyanide Transport Management Policies* states that:

All equipment utilised is to fit for purpose and in accordance with the relevant regulatory requirements in place in each area of operation. Transportation agencies must be able to identify the carrying capacities of transportation equipment and equipment combinations and lifting equipment used throughout the supply chain.

A procedure for *Carrier Maintenance Programs* that details the minimum safety requirements that Orica requires its prime contractor and associated subcontractors to implement.

Orica has developed procedures to verify the adequacy of the equipment for the load it must bear and that his equipment is not overloaded. The *Transport Management Policies* state that agents, distributors and transportation agencies must ensure that:

- *All transportation assets are load capable within the regulatory requirements of the area of operation*
- *Only one container/isotainer/isotank is to ever be transported on transportation assets...*

Orica’s *Management of Contracted Operations* procedure defines the requirements for the management of contractors who conduct product-related operations on behalf of Orica. Such operations include the transport of sodium cyanide. The procedure guides the contractor selection process, preparation of contracts/agreements, monitoring and measurement and management of change of contractors.

Orica’s road transporters contracts have conditions stating that said contractor is responsible for the implementation of the Code within its business. Orica’s *Carrier Assessment Questionnaire* is used to assess the compliance of contracted entities against contract/agreement requirements. Completed assessments for FFT and FFK were available for review.

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Freight Forwarders Tanzania

FFT was certified as being fully compliant with the Code on 28 September 2011.

Freight Forwarders Kenya

FFK was certified as being fully compliant with the Code on 28 September 2011.

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 East Africa Supply Chain is in FULL COMPLIANCE with Transport Practice 1.4 requiring the operation develop and implement a safety program for transport of cyanide.

Orica

Orica does not directly operate transport vehicles in its East Africa Supply Chain, this is undertaken by FFT and FFK. Despite this, Orica does ensure its transport contractors and subcontractor implement a safety program for the transport of cyanide that ensures that cyanide is transported in a manner that maintains the integrity of the producer’s packaging and that the product is placarded to identify the shipment as cyanide, as per local regulations and international standards.

Orica’s Yarwun Facility was recertified under the Code on 29 October 2013. As a Code certified cyanide producer, Orica has systems in place to ensure their containers are labelled in accordance with the IMO DG Code.

The Orica Australia Supply Chain Audit addresses items such as cyanide packaging, labelling, container loading and security. The East Africa Supply Chain is a continuation of the Australia Supply Chain and containers are not opened until they arrive at the final destination. This supply chain was certified on 5 October 2010 and underwent a recertification audit in October 2013. The detailed and summary audit reports were submitted in in full compliance to the ICMI for completeness review in November 2013.

Orica ensures that its transport contractors and subcontractors implement safety programmes for cyanide transport. The *Transport of Sodium Cyanide – Carrier Safety Program* procedure notes that the minimum safety requirements/programmes necessary to be in effect for all carriers/transporters effecting transportation of sodium cyanide on behalf of Orica are:

- Vehicle inspections prior to the commencement of each and every departure/shipment of product
- A preventative maintenance programme for all vehicles and trailers used in the transportation of sodium cyanide
- An approved fatigue management programme in accordance with local regulatory requirements
- Procedures in place to prevent shifting of loads in transit

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- Procedures through which transportation can be modified, suspended or cancelled if conditions warrant (e.g. severe weather conditions, civil unrest, etc.)
- A drug abuse prevention programme, including over the counter medications
- Retention of records providing documentary evidence that the above activities have and are being conducted.

Orica's *Management of Contracted Operations* procedure defines the requirements for the management of contractors who conduct product-related operations on behalf of Orica. Such operations include the transport of sodium cyanide. The procedure guides the contractor selection process, preparation of contracts/agreements, monitoring and measurement and management of change of contractors.

Orica's road transporters contracts have conditions stating that said contractor is responsible for the implementation of the Code within its business. Orica's *Carrier Assessment Questionnaire* is used to assess the compliance of contracted entities against contract/agreement requirements. Completed assessments for FFT and FFK were available for review.

Freight Forwarders Tanzania

FFT was certified as being fully compliant with the Code on 28 September 2011.

Freight Forwarders Kenya

FFK was certified as being fully compliant with the Code on 28 September 2011.

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

Orica

Orica does transport consignments of cyanide by sea within the scope of this audit. As identified during the Orica Australia Supply Chain certification audit, all containers (i.e. freight containers of IBCs, sparge isocontainers or liquid isocontainers) are placarded at the Yarwun Facility in accordance with the requirements of the IMO DG Code with UN numbers, the Class 6 dangerous goods class label and the environmentally hazardous substance label. This level of placarding is consistent with the requirements of the Australian Dangerous Goods (ADG) Code.

A container intended for sea transport has documentation prepared in accordance with the IMO DG 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 the Australian Ports.

Orica does not transport consignments of cyanide by air within the scope of this audit.

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Orica's *Sodium Cyanide Transport Management Policies* notes that no sodium cyanide manufactured by Orica Mining Chemicals or manufactured by third parties on behalf of Orica Mining Chemicals will be permitted to be transported by air without express written permission of Orica Mining Chemicals.

Freight Forwarders Tanzania

FFT was certified as being fully compliant with the Code on 28 September 2011.

Freight Forwarders Kenya

FFK was certified as being fully compliant with the Code on 28 September 2011.

MSC

A due diligence of MSC conducted by Orica indicated that the shipping company transported cyanide in compliance with the IMO DG Code. The due diligence specifically referenced provisions of the Dangerous Goods Code that are required to be addressed under this question.

Port of Mombasa and Dar es Salaam

Due diligences of the Ports were conducted by Orica in August 2013. The due diligences indicated that the ports were in compliance with the IMO DG Code. The due diligences specifically referenced provisions of the IMO DG Code that are required to be addressed under this question.

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 East Africa Supply Chain is in FULL COMPLIANCE with Transport Practice 1.6 requiring the tracking of cyanide shipments to prevent losses during transport.

Orica

Orica does not employ transport drivers or directly operate transport vehicles, this is undertaken by its contractors FFT and FFK. Despite this, Orica does ensure its transport contractor vehicles have means to communicate with the transport company, the mining operation, the cyanide producer or distributor and/or emergency responders.

Orica's *Transportation of Cyanide – Tracking of Shipments* procedure requires Orica and its contracted transportation agencies to maintain a vehicle tracking system that shall provide:

- Duress notification by the driver
- Visibility to external users to current location of vehicles carrying product
- Download capability relating to each vehicle and each individual trip
- Geo-fencing, if practicable.

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Orica does ensure contractor communication equipment (global positioning system, mobile phone, radio, pager, etc.) is periodically tested to ensure it functions properly through the engagement of Code certified transporters, FFT and FFK.

Orica does ensure communication blackout areas along the East Africa Supply Chain have been identified and ensures special procedures are implemented for the blackout areas. This is achieved through the engagement of Code certified transporters, FFT and FFK.

Orica does ensure its transport contractor implements systems or procedures to track the progress of cyanide shipments. Orica's *Transportation of Cyanide – Tracking of Shipments* procedure requires Orica and its contracted transportation agencies to maintain a vehicle tracking system.

Orica does implement inventory controls and/or chain of custody documentation to prevent loss of cyanide during shipment. Orica's *Sodium Cyanide Transport Management Policies* requires that agents, distributors and transportation agencies ensure that:

Chain of responsibility requirements is met.

Orica does ensure that its transport contractors carry records indicating the amount of cyanide in transit and Material Safety Data Sheets are available during transport. This is achieved through the engagement of Code certified transporters, FFT and FFK.

Orica's *Management of Contracted Operations* procedure defines the requirements for the management of contractors who conduct product-related operations on behalf of Orica. Such operations include the transport of sodium cyanide. The procedure guides the contractor selection process, preparation of contracts/agreements, monitoring and measurement and management of change of contractors.

Orica's road transporters contracts have conditions stating that said contractor is responsible for the implementation of the Code within its business. Orica's *Carrier Assessment Questionnaire* is used to assess the compliance of contracted entities against contract/agreement requirements. Completed assessments for FFT and FFK were available for review.

Freight Forwarders Tanzania

FFT was certified as being fully compliant with the Code on 28 September 2011.

Freight Forwarders Kenya

FFK was certified as being fully compliant with the Code on 28 September 2011.

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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 East Africa 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.

Orica

Storage in transit does occur at the following Ports while formalities such as customs clearance and carrier releases are performed:

- Port of Mombasa, Kenya
- Port of Dar es Salaam, Tanzania.

Storage in transit also occurs at the transshipping Ports of Singapore and Durban.

Depending on weather, cargo types and other operational matters, shipping lines may tranship 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 with Orica's sodium cyanide. Orica has no control over when and where this happens, but through its due diligence investigations has satisfied itself that MSC undertake the shipping of the product in accordance with the IMO DG Code and in a professional manner. This extends to the selection of terminals for trans-shipping.

Port of Mombasa and Dar es Salaam

Due diligences of the Ports were conducted by Orica in August 2013.

The due diligences assessed interim storage requirements at these facilities and Orica ascertained that the ports are operating in a safe and responsible manner and is suitable for the transit of sodium cyanide.

Freight Forwarders Tanzania

FFT was certified as being fully compliant with the Code on 28 September 2011.

Freight Forwarders Kenya

FFK was certified as being fully compliant with the Code on 28 September 2011.

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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.

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

Summarise the basis for this Finding/Deficiencies Identified:

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

Orica

Orica has developed detailed emergency response document (*Emergency Response Guide Sodium Cyanide*) to provide emergency response guidance for specific mine site, storage facilities and transport incidents involving spillage of Orica product. The guide covers:

- Incident management objectives and strategies
- Responsibilities
- Decontamination of soil
- Use of hypochlorite for decontamination purposes
- Specific Emergency Response Guides:
 - Dry sodium cyanide spill – inside building/storage facility
 - Dry sodium cyanide spill – outside building/storage facility
 - Dry sodium cyanide spill – inside shipping container
 - Shipping container decontamination
 - Sodium cyanide spill to water way
 - Handling wet sodium cyanide
 - Response to fire in vicinity of stored cyanide
 - Roll over of shipping container
- Hazard Information – Transport
- Hazard Information – Product Spill Management and Clean Up

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- Communications
- Emergency Scenarios and Roles and Responsibilities.

The *Emergency Response Guide Sodium Cyanide* is appropriate for the selected transportation route or interim storage facility within the supply chain. The objective of the *Emergency Response Guide Sodium Cyanide* is to provide information in a suitable format, which can be used to minimise the adverse effects of a cyanide emergency on people, property and the environment. It is applicable to the management of an emergency involving Orica-supplied sodium cyanide solid or liquid product. It is considered applicable for product spillages at any location along the product supply chain from the Yarwun Facility gate to the mine site end user.

The Orica *Emergency Response Guide Sodium Cyanide* details the hazards and controls of both solid and liquid sodium cyanide. The emergency response actions detailed in the *Emergency Response Guide Sodium Cyanide* are relevant to solid cyanide and its packaging in IBCs within freight containers and sparge isotainers, and liquid cyanide in liquid isotainers.

The *Emergency Response Guide Sodium Cyanide* details the hazards and controls for different forms of transport and facilities, which is relevant to road transportation within the East Africa Supply Chain.

Orica does not directly operate transport vehicles or storage facilities along its East Africa Supply Chain. Despite this Orica has developed an *Emergency Response Guide*. The objective of the *Emergency Response Guide Sodium Cyanide* is to provide information in a suitable format, which can be used to minimise the adverse effects

The *Emergency Response Guide Sodium Cyanide* does include descriptions of response actions for anticipated emergency situations. The critical component of the emergency response process is the dedicated Orica Emergency Response Service (ERS) based in Melbourne. The *Emergency Response Guide Sodium Cyanide* requires Orica ERS to be contacted in the event of an emergency involving cyanide. Orica ERS operates 24 hours a day, seven days a week providing telephone advice and assistance to the public, emergency services and others on incidents relating to the transport, storage and use of chemical products and raw materials in emergency situations. Advice and assistance will include the contact and mobilisation of specialist Orica personnel or contractors who have access to relevant information and understand the specific issues presented by a particular transport route, transport practices and/or interim storage facility.

Appendix 6 (Orica Response to a Report of a Cyanide Incident) of the *Emergency Response Guide Sodium Cyanide* 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. Orica's Supply Chain Compliance Coordinator advised that all emergency responders identified along specific routes, during the route assessment process, are issued with Orica's *Emergency Response Guide* or the contracted transporters emergency response documentation.

Freight Forwarders Tanzania

FFT was certified as being fully compliant with the Code on 28 September 2011.

Freight Forwarders Kenya

FFK was certified as being fully compliant with the Code on 28 September 2011.

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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 East Africa Supply Chain is in FULL COMPLIANCE with Transport Practice 3.2 requiring the operation designate appropriate response personnel and commit necessary resources for emergency response.

Orica

Orica does not directly operate transport vehicles or storage facilities along its East Africa Supply Chain.

Orica provides emergency response training of appropriate personnel. Orica retain technical and advisor roles in an emergency and can provide physical resources and personnel to assist emergency services in the response to an incident involving cyanide. To maintain this capacity, it has been advised that Senior Orica ERS personnel or their delegates conduct training of new Orica ERS coordinators, with input from other Orica ERS coordinators and other Orica personnel as required. Initial coordinator training is conducted in accordance with training schedules, with each competency/component in the training programme only being signed off by the trainer and trainee once the content is covered thoroughly and adequately to the satisfaction of both parties.

Orica's Emergency Response Guide outlines Orica's response to incidents that they have been notified of. The responsibilities for personnel following an emergency along the supply chain are covered in FFT's and FFK's specific emergency response plans. Both these entities are Code certified.

The Emergency Response Guide does not detail emergency response equipment that may be required during an emergency. Appendix 7 of the Orica Emergency Response Guide provides guidance on the level of PPE outline by the US Environmental Protection Agency and the Occupational Safety and Health Administration, but does not specify what should be provided during transport. Section 3.8 of the guide lists the PPE to be provided in the event of a roll-over of a shipping container. The Guide is intended to be used by contractors and provides a point of reference for Orica's contractors to develop and align their emergency management plans.

Orica has implemented processes to check that contractors transporting the material have necessary equipment including during transport. Section 10 Emergency Management of the Carrier Assessment Questionnaire.

Orica has developed and provided initial and periodic refresher training covering cyanide awareness and emergency response to its transport contractors.

Additionally, Sections 10 and 12 of the Carrier Assessment Questionnaire have questions regarding the training of contractor personnel regarding their roles in emergency response.

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Orica's *Management of Contracted Operations* procedure that defines the requirements for the management of contractors who conduct product-related operations on behalf of Orica. Such operations include the transport of sodium cyanide. The procedure guides the contractor selection process, preparation of contracts/agreements, monitoring and measurement and management of change of contractors.

Orica's contracts with their road transporters have conditions stating that said contractor is responsible for the implementation of the Code within its business. Orica's *Carrier Assessment Questionnaire* is used to assess the compliance of contracted entities against contract/agreement requirements. Completed assessments for FFT and FFK were available for review.

Freight Forwarders Tanzania

FFT was certified as being fully compliant with the Code on 28 September 2011.

Freight Forwarders Kenya

FFK was certified as being fully compliant with the Code on 28 September 2011.

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 East Africa Supply Chain is in FULL COMPLIANCE with Transport Practice 3.3 requiring the operating develop procedures for internal and external emergency notification and reporting.

Orica

There are procedures and contact information for notifying the shipper, the receiver/consignee, regulatory agencies, outside response providers, medical facilities and potentially affected communities of an emergency. Within the *Emergency Response Guide Sodium Cyanide* the role of Orica ERS is one of communication. ERS operates 24 hours a day providing telephone advice and assistance to the public, emergency services and others on incidents relating to the transport, storage and use of chemical products and raw materials in emergency situations. The emergency contact number for Orica is on the front cover of the Guide.

There are provisions to ensure that internal and external emergency notification and reporting procedures are kept current. Lists of emergency contact information for Orica chemical specialist and relevant subcontractors, including transport subcontractors, are detailed in Orica's *Emergency Contact List* which is managed within Orica's document control system.

Specific contact information for local stakeholders is maintained by the contracted transporters, FFT and FFK. Both these entities are Code certified.

Freight Forwarders Tanzania

FFT was certified as being fully compliant with the Code on 28 September 2011.

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Freight Forwarders Kenya

FFK was certified as being fully compliant with the Code on 28 September 2011.

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

Orica

The *Emergency Response Guide Sodium Cyanide* includes procedures for remediation, such as recovery or neutralisation of solutions or solids, decontamination of soils or other contaminated media and management of spill clean-up debris.

Section 2.4.3 (Decontamination of a Spill of Solid or Liquid Cyanide into Soil) and Section 2.5 (Use of Sodium Hypochlorite for Decontamination Purposes) of the *Emergency Response Guide Sodium Cyanide* provides information on the hazards associated with the recovery and neutralisation.

Section 3.0 (Specific Emergency Response Guides) of the *Emergency Response Guide Sodium Cyanide* details specific response procedures for a variety of scenarios.

Orica has procedures that prohibit the use of chemicals such as sodium hypochlorite, ferrous sulfate and hydrogen peroxide to treat cyanide that has been released into surface water.

The Orica *Emergency Response Guide Sodium Cyanide* provides the following warning in Section 3.6 (Sodium Cyanide Spill in a Waterway):

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.

Freight Forwarders Tanzania

FFT was certified as being fully compliant with the Code on 28 September 2011.

Freight Forwarders Kenya

FFK was certified as being fully compliant with the Code on 28 September 2011.

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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 East Africa Supply Chain is in FULL COMPLIANCE with Transport Practice 3.5 requiring the operation periodically evaluate response procedures and capabilities and revise them as needed.

Orica

Orica does not directly operate transport vehicles or storage facilities along its East Africa Supply Chain.

There are provisions for periodically reviewing and evaluating the plan’s adequacy and they are being implemented. The *Emergency Response Guide Sodium Cyanide* is a controlled document that is subject to an annual review with the last review in November 2013.

Orica does not directly operate transport vehicles or storage facilities along its East Africa Supply Chain. Orica’s *Emergency Response Exercise and Drills – Schedule* procedure indicates that domestically (i.e. Australia) Orica is to undertake desktop exercises quarterly and one field exercise annually. With regards to export markets, the procedure indicates that:

Code signatory transporters have their own exercise programs in place which Orica will review outcomes of.

There is a procedure to evaluate the Plan’s performance after its implementation and revise it as needed. The procedure has been implemented. Orica’s *SHEC* [Safety, Health, Environment and Community] *Incident Management* procedure requires that appropriate corrective actions be implemented following an incident investigation and that management relay lessons learnt to relevant personnel within the business.

Freight Forwarders Tanzania

FFT was certified as being fully compliant with the Code on 28 September 2011.

Freight Forwarders Kenya

FFK was certified as being fully compliant with the Code on 28 September 2011.

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3.0 SHIPPING DUE DILIGENCE

3.1 Mediterranean Shipping Company Australia Pty Ltd

Orica conducted a due diligence review of the MSC shipping operation utilised as part of their East Africa Supply Chain on 23 September 2013. The review was conducted by David Ellison, Supply Chain Compliance Coordinator of Orica Australia Pty Ltd.

The due diligence was reviewed by Mike Woods of Golder. Mike is pre-certified by the ICMI as a Transport Technical Specialist.

The following items were addressed within the due diligence:

- Compliance with ICMC
 - Transport Practice 1.1
 - Transport Practice 1.5
 - Transport Practice 1.6.
- Australian Shipping Regulatory Framework
 - Australian Maritime Safety Authority (AMSA)
 - Cargoes
 - Port State Control
 - Power of Inspection and Detention.
- Australian Department of Defence
- Conclusion.

The due diligence review was compiled through physical visits, interviews and discussions with appropriate personnel and review of applicable documentation.

The due diligence review concluded:

Orica through its dealings with MSC Shipping has found them to be a highly professional shipping organisation. MSC Shipping is one of the few carriers with the ability to provide Orica with a worldwide coverage.

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.

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

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The due diligence also noted that:

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.

3.2 Port Due Diligences

3.2.1 Port of Dar es Salaam

Orica conducted a due diligence assessment of the Port of Dar es Salaam on 28 August 2013, performed by Orica's ICMC Compliance Coordinator. The following items were specifically addressed within the due diligence:

- Transport Practice Element 1.1
- Transport Practice Element 1.5
- Transport Practice Element 1.6
- Transport Practice Element 2.1.

The due diligence assessment states that Orica:

...has found no issues of concern in regards to the Port of Dar es Salaam. Orica via its code accredited transporter, Freight Forwarders Tanzania (FFT) , will continue to review and monitor the port's performance and this will include ongoing and regular contact to maintain awareness and preparedness.

The due diligence concludes that the:

... assessment conduct of the Port of Dar es Salaam determined that the port is operating in a safe and responsible manner and is suitable for the transit of sodium cyanide. This suitability is added to by the presence and close working relationship between the port and Orica's contracted carrier, Dar es Salaam, with respect to sodium cyanide.

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3.2.2 Port of Mombasa

Orica conducted a due diligence assessment of the Port of Mombasa on 27 August 2013, performed by Orica's ICMC Compliance Coordinator. The following items were specifically addressed within the due diligence:

- Transport Practice Element 1.1
- Transport Practice Element 1.5
- Transport Practice Element 1.6
- Transport Practice Element 2.1.

The due diligence assessment states that Orica:

...has found no issues of concern in regards to the Port of Mombasa. Orica via its code accredited transporter, Freight Forwarders Kenya (FFK), will continue to review and monitor the port's performance and this will include ongoing and regular contact to maintain awareness and preparedness.

The due diligence concludes that the:

... assessment conduct of the Port of Mombasa determined that the port is operating in a safe and responsible manner and is suitable for the transit of sodium cyanide. This suitability is added to by the presence and close working relationship between the port and Orica's contracted carrier, Dar es Salaam, with respect to sodium cyanide.

3.3 Auditor Review of Due Diligence

Orica has concluded from the due diligence assessments that no major issues of concern were identified with respect to the transportation of sodium cyanide throughout the domestic supply chain by the shipping operators, road transportation operators and port utilised. Based on a review of the due diligence reports, the auditor accepts this conclusion.

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Report Signature Page

GOLDER ASSOCIATES PTY LTD

Handwritten signature of Mike Woods in black ink.

Mike Woods
ICMC Lead Auditor and Technical Specialist

Handwritten signature of Ed Clerk in black ink.

Ed Clerk
Principal

RJB_MCW/ECW/hsl

A.B.N. 64 006 107 857

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APPENDIX A

Limitations



LIMITATIONS

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