

**Riskom International Pty Ltd**

ABN 60 097 769 189

# **INTERNATIONAL CYANIDE MANAGEMENT CODE CYANIDE TRANSPORT OPERATIONS**

**Orica Pty Ltd**

**Orica Pty Ltd Australia Supply Chain ICMI Re-  
Certification Audit  
Summary Audit Report**

**November 2021**



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## **SUMMARY AUDIT REPORT**

### **Name of Company**

Orica Pty Ltd

### **Name of Company Owner**

100% owned by Orica Pty Ltd

### **Name of Responsible Manager**

Daniel Naismith, Distribution Manager Cyanide, Australia Pacific

### **Address**

Level 5, 3 Loftus Street, West Leederville, Western Australia 6007.

### **Contact**

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## **LOCATION DETAIL AND DESCRIPTION OF OPERATION**

Orica's Australian supply chain originates from the Yarwun facility in northern Queensland where the transport operation is coordinated. Solid cyanide is packaged in either sparge Portable Tanks which have a maximum gross mass of 26 tonnes or IBCs which are in turn packed into freight containers. A maximum of 20 IBCs can be packed into each freight container; maximum gross weight of 28 tonnes. Liquid cyanide is also transported in Portable Tanks with a maximum weight of 26 tonnes. The cyanide is delivered to gold mining customers throughout Australia including QLD, NT, NSW, Victoria, Tasmania and Western Australia.

The cyanide products are delivered using a combination of road and rail carriers. During this re certification Orica was utilising Toll Global Logistics (Toll) or Rocky's Own Transport (ROTC) for road transport. Toll and ROTC are both signatories to the ICMI code and their Australian supply chains are currently being recertified.

Rail transport is controlled by Toll and Linfox. Toll's rail transport is part of their supply chain audit. Similarly, sea transport from the port of Melbourne to Tasmania is managed by Toll and is part of their supply chain audit.

Following the purchase of some rail transport assets by Linfox, Orica accepted written assurance from Linfox that the procedures and management measures that were in place for the safe handling of cyanide remained in place. (This was reported in the 2019 audit report.) Orica continues to monitor Linfox' operations to ensure that this continues

## **AUDITOR'S FINDING**

This operation is:

in full compliance

## Riskom International Pty Ltd

ABN 60 097 769 189

in substantial compliance

not in compliance

with the International Cyanide Management Code.

### Audit Company

Riskom International Pty Ltd

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Telephone: +61 8 9364 7489; Mobile +61 407 261 246

### Date(s) of Audit

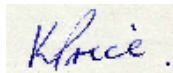
Inclusive of the period from 2 September to 5 November 2021.

### Audit Team Leader

Kenneth Price (ken@riskom.com.au)

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 Transport Operations and using standard and accepted practices for health, safety and environmental audits.



5 November 2021

## PRINCIPLE 1 – TRANSPORT

**Transport cyanide in a manner that minimizes the potential for accidents and releases.**

### Standard of Practice 1.1

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

in full compliance with

The operation is  in substantial compliance with Standard of Practice 1.1

not in compliance with

### Basis for this Finding/Deficiencies Identified:

Orica is in Full Compliance with Standard of Practice 1.1.

Orica ensures that cyanide is Transported in a manner that minimizes the potential for accidents and releases.

Orica contracts out all road transport to Toll Group Logistics (Toll) or Rocky's Own Transport (ROTC) (ROTC is a trade name. the registered company name is Lake Fox). Both Toll and ROTC are fully accredited with ICMI.

The transport contractors are responsible for route selection. Orica has guidance for all contractors to follow with respect to route selection and the guide addresses: population density; infrastructure; road construction, condition, pitch and grade; prevalence and proximity of water bodies and fog.

Orica checks both carriers (Toll and ROTC) against their application of the guide by annual site visits and also drives the route with the carriers.

Orica's plan is to drive 12 routes each year (monthly) which is lagging somewhat (though it is still effective) because of travel restrictions imposed by Covid-19.

Orica has weekly (Toll) or fortnightly (ROTC) meetings with carriers to assess ongoing issues. The meetings are recorded, and actions are listed and tracked to conclusion.

Each carrier prepares a journey management plan for every transport route which is checked by Orica as part of its periodic reviews.

Orica supplements carriers' route re-evaluation through driver feedback in meetings and through triennial reviews of journey management plans (JMP). Site inspections result in a rating which determines the frequency of audits.

There is a section in each JMP for driver comments which are then shared through daily meetings and weekly or fortnightly corrective action meetings (CAMS). The CAMs result in a series of Correction Action Reports (CAR).

Toll and ROTC are fully accredited with ICMI, which addresses this issue of consultations with communities.

Route selection is driven by:

- The Government National Heavy Vehicle Registration (NHVR) scheme that carriers use to select preferred routes for cyanide transport.
- local knowledge from customers and local governments.

No routes in Australia present special safety or security concerns sufficient to warrant convoys or escorts.

Orica meets daily with all carriers to set load requirements for the following 24 hr. In those meetings current vehicle locations are checked and safety or security concerns are checked at that time.

All consignments are monitored through carrier vehicle management systems (VMS) which address vehicle locations, speeds, stops, driver performance and behaviour, including fatigue. Orica has to the carriers VMS data.

Orica has an overarching Emergency Response Plan (ERP), which carriers are required to be compliant with. Each carrier develops a Transport Emergency Response Plan (TERP), guided by the Orica ERP. The TERPs includes involvement of the local communities along the routes

Orica periodically audits the transporters' Emergency Response Plans to ensure they are adequate and address all credible emergencies. The review includes monitoring and participating in emergency response drills.

Toll subcontracts some routes out of Yarwun, Laverton and Kalgoorlie and requires subcontractors follow their procedures. Orica checks subcontractor records at those sites for induction, training and licence currency. All vehicles operating from Yarwun and Laverton are checked by Orica at the point of departure. ROTC does not subcontract any of its cyanide transport.

**Standard of 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 Standard of Practice 1.2

not in compliance with

**Basis for this Finding/Deficiencies Identified:**

Orica is in Full Compliance with Standard of Practice 1.2.

Orica has taken action to ensure that personnel operating cyanide handling and transport equipment can perform their jobs with minimum risk to communities and the environment.

On Orica's instructions, each site has a safe work instruction (SWI) based on the Orica operating manual.

Orica has two carriers, Toll and ROTC, both of whom are fully accredited with ICMI.

Carriers are required to have company training plans which are based on Orica minimum requirements in the Orica operating manual. Orica monitors the driver trainers (DT) for competence and the DT must undergo refresher training every three years.

Orica's field service technicians (FST) work with the DT to update their competence. New DTs are trained either through carrier training systems or by working with Orica staff on site.

Orica maintains a register of drivers to monitor that their HV licences and Dangerous Goods Transport licences are current

Of the two carriers, ROTC does not subcontract any of its cyanide transport and Toll subcontracts some transport. All subcontractors are required to go through Toll's training procedures. Toll subcontracts for some routes and requires subcontractors be trained and follow their procedures. Subcontractors may operate out of Yarwun, Laverton or Kalgoorlie. Orica checks audits of subcontractors working out of those sites

**Standard of Practice 1.3**

Ensure that transport equipment is suitable for the cyanide shipment.

in full compliance with

The operation is  in substantial compliance with Standard of Practice 1.3

not in compliance with

**Basis for this Finding/Deficiencies Identified:**

Orica is in Full Compliance with Standard of Practice 1.3.

Orica ensures that transport equipment is suitable for the cyanide shipment.

Orica has two carriers, Toll and ROTC, both of whom are fully accredited with ICMI.

Australia has national heavy vehicle (HV) load limits implemented through state HV regulators. The regulations set total vehicle and axle load limits and vehicles are licensed according to those limits.

The Australian Dangerous Goods (ADG) Code sets specifications for containers (Sparge tanks, Portable Tanks and freight containers) and all Orica containers (sparge tanks and Portable Tanks) are built and maintained to the Container Safety Convention (CSC) and appropriately plated.

Orica and its carriers comply with the Australian legislative requirements.

For solid product Orica leases freight containers where needed. At the time of loading at Yarwun or Laverton, containers are checked to ensure the CSC compliance.

Orica periodically reviews and audits carriers' vehicles, equipment, maintenance systems to ensure an appropriate level of compliance and safety

ROTC does not subcontract any of its cyanide transport and Toll subcontracts for some routes out of Yarwun, Laverton and Kalgoorlie. Toll requires subcontractors follow their procedures and audits them accordingly. Orica reviews these audits

Subcontractors may operate out of Yarwun, Laverton or Kalgoorlie and Orica checks subcontractor records at those sites for induction, training and licence currency.

All vehicles and equipment operating from Yarwun [and Laverton] are checked by Orica at the point of departure.

**Standard of Practice 1.4**

Ensure that transport equipment is suitable for the cyanide shipment.

in full compliance with

The operation is  in substantial compliance with Standard of Practice 1.4

not in compliance with

**Basis for this Finding/Deficiencies Identified:**

Orica is in Full Compliance with Standard of Practice 1.4.



Orica has ensured that a safety program for transport of cyanide has been developed and implemented.

Orica has two carriers, Toll and ROTC, both of whom are fully accredited with ICMI. On Orica's instructions, carriers develop a safe work instruction (SWI) for each site based on the Orica operating manual.

Orica consigns cyanide in company owned sparge tanks and Portable Tanks. Orica also consigns cyanide in IBCs packed into freight containers from Yarwun and Laverton. The Australian Dangerous Goods (ADG) Code sets specifications for containers (Sparge tanks, Portable Tanks and freight containers) and all Orica containers (sparge tanks and Portable Tanks) are built and maintained to the Container Safety Convention (CSC) and appropriately plated.

Orica has regular (at least fortnightly) meetings with carriers to assess ongoing issues including tank condition and maintenance needs. The meetings are recorded, and actions are listed and tracked to conclusion through a corrective action register (CAR).

Orica periodically reviews and audits carriers' vehicles, equipment, maintenance systems to ensure an appropriate level of compliance and safety and the audits include review of: tank handling; placarding; vehicle inspections (pre-start and pre-departure briefings); maintenance; fatigue management; load securing; general and emergency management; drug abuse management; and documentation.

Vehicle placarding requirements for transporting cyanide are prescribed in the ADG Code.

Placarding of vehicles is checked prior to departure by Orica at its Yarwun facility.

Contractor compliance with the placarding requirements is monitored through Orica's periodic audits.

Carriers are assessed annually by Orica. The assessment covers

- a. Vehicle inspections prior to departure/shipment
- b. Preventive maintenance programs
- c. Limitations on operator or drivers' hours
- d. Procedures to prevent loads from shifting
- e. Procedures by which transportation can be modified or suspended if conditions such as severe weather or civil unrest are encountered
- f. Alcohol and drug abuse prevention programs
- g. Retention of records

In addition to this, Orica as a consignor of cyanide:

- do vehicle inspections and checks for all vehicles and containers departing Yarwun.
- has a maintenance program for its tanks.
- pack containers with IBCs of cyanide and have a checklist that addresses stowage to prevent loads from shifting. Portable Tanks are filled to a procedure to ensure ullage is in the correct range. Portable Tanks consigned from Yarwun either do not leave the production plant until the user confirms there is adequate capacity in the storage tank to receive the load, or on rare occasion when a tanker arrives on site and the receival tank will not take the full load procedures are in place to manage this by either waiting until the storage volume drops or returning the load to the factory.

Toll' subcontractor drivers follow the same procedures as the Toll drivers.

### **Standard of 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 Standard of Practice 1.5

not in compliance with

#### **Basis for this Finding/Deficiencies Identified:**

Orica operations is Not Applicable to Standard of Practice 1.5.

Orica does not transport by sea or air. Its carrier Toll transports by sea and Toll is audited and accredited to ICMI.

### **Standard of Practice 1.6**

Track cyanide shipments to prevent losses during transport.

in full compliance with

The operation is  in substantial compliance with Standard of Practice 1.6

not in compliance with

#### **Basis for this Finding/Deficiencies Identified:**

Orica is in Full Compliance with Standard of Practice 1.6.

Orica has systems in place to track cyanide shipments to prevent losses during transport.

All vehicles are equipped with UHF radio, mobile phone and satellite navigation where necessary. And both carriers employ a vehicle information management system (VIMS) which track all vehicles at all times.

Blackout areas known and documented in Journey Management Plans (JMPs)

Orica meets daily with all carriers to set load requirements for the next 24 hr. In those meetings current vehicle locations are checked and safety or security concerns are checked at that time

Orica has a monitoring program which involves driving 12 routes each year (monthly). As a part of this, Orica monitors the daily startup procedure which includes a test of communications equipment.

Orica is currently installing GPS trackers on all tanks.

Orica seals all containers (doors or valves) prior to leaving its production facilities. Seal numbers are recorded and transporters are required to check them on route and on delivery. Nominally empty containers are resealed before leaving the customer. All containers remain sealed until arrival back at the production facility.

Transporters (Toll and ROTC) are covered by separate accreditation. Orica complements this by with annual audits of the transporters' procedures and annual stocktakes of the Laverton storage facility.

All product leaving Yarwun is weighed out (weighbridge). Product leaving Laverton is in 1 tonne IBCs and these are counted out for each load. Orica maintains comprehensive records of all dispatches including quantities, container identification, vehicle identification and destination locations.

Safety Data Sheets are available through Orica's web site and are carried in all vehicles. Orica checks periodically at monthly site audits.

Toll subcontracts for some routes out of Yarwun, Laverton and Kalgoorlie and requires subcontractors follow their procedures. Vehicles subcontracting to Toll are equipped with communication equipment to the same standard as Toll vehicles. ROTC does not subcontract any of its cyanide transport

All vehicles operating from Yarwun and Laverton are checked by Orica at the point of departure.

## PRINCIPLE 2 – INTERIM STORAGE

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

### Standard of Practice 2.1

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

in full compliance with

The operation is  in substantial compliance with Standard of Practice 2.1

not in compliance with

### Basis for this Finding/Deficiencies Identified:

Orica is in full compliance with Standard of Practice 2.1.

Orica ensures that cyanide is stored in a manner that minimizes the potential for accidental releases.

Toll operates the only interim storage facility on Orica's Australian transport chain. The site is at Kalgoorlie; it is part of Toll's ICMI accreditation and was recently recertified as compliant.

The ICMI certification is supplemented by periodic site inspections by Orica which check:

- for signage relating to the presence of cyanide; prohibitions on smoking, sources of ignition, food and drink consumption; and PPE.
- for security measures in place to prevent unauthorized access to cyanide, such as lockouts on valves and fenced and locked storage of solids.
- that cyanide is separated from incompatible materials such as acids, strong oxidizers and explosives with berms, bunds, walls or other appropriate barriers to prevent mixing.
- that cyanide is stored in a manner designed to minimize the potential for contact of solid cyanide with water (e.g., under a roof, off the ground, or in specially designed containers
- that cyanide is stored with adequate ventilation.
- that there are systems in place with the capacity to contain any spilled cyanide materials and minimize the extent of a release

## PRINCIPLE 3 – EMERGENCY RESPONSE

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

### Standard of Practice 3.1

Prepare detailed emergency response plans for potential cyanide releases.

in full compliance with

The operation is  in substantial compliance with Standard of Practice 3.1

not in compliance with

### **Basis for this Finding/Deficiencies Identified:**

Orica is in Full Compliance with Standard of Practice 3.1.

Orica ensures that detailed emergency response plans are prepared for potential cyanide releases.

A Transport emergency response plan (TERP) is a legal requirement under the Australian Dangerous Goods Code. Companies engaged in the handling of dangerous goods must have a properly documented TERP.

Orica has developed an Emergency Response Plan Guide. This is used by its carriers to develop their TERP.

The Emergency Response Plan Guide is a general guide applicable to all transport operations. The guide includes:

- management of the physical and chemical form of the cyanide
- the method of transport (e.g., rail, truck) or storage
- all aspects of the transport infrastructure (e.g., condition of the road, railway, port)
- the design of the transport vehicle (e.g., single or double walled, top or bottom unloading) or storage facility
- descriptions of response actions, as appropriate for the anticipated emergency situation and
- the roles of outside responders, medical facilities or communities in emergency response procedures

**Standard of Practice 3.2**

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

The operation is  in full compliance with  
 in substantial compliance with Standard of Practice 3.2  
 not in compliance with

**Basis for this Finding/Deficiencies Identified:**

Orica is in Full Compliance with Standard of Practice 3.2.

Orica ensures that appropriate response personnel are designated, and necessary resources committed for emergency response.

Orica transport is done by two carriers, Toll and ROTC, both of whom are fully accredited with ICMI. As such both of them have developed and implemented processes that ensure compliance with this code.

Orica checks both carriers (Toll and ROTC) by annual site visits / audits and also drives the route with the carriers. Orica's plan is to drive 12 routes each year (monthly)

Orica does not provide specific emergency response training however Orica participates in periodic drills conducted by its carriers to monitor transporter competence.

Descriptions of the specific emergency response duties and responsibilities of personnel are covered in the Orica emergency response Guide and the carriers TERP. The contractors' TERPs are assessed as part of their ICMI accreditation and also are monitored annually by Orica.

As it does not transport cyanide directly, Orica does not keep a list of all emergency response equipment that should be available during transport or along the transportation route. This is kept by the carriers. Orica checks the carriers' TERP for the list and also checks the inventory periodically.

Orica periodically checks the required inventory of its carriers. At those checks drivers' emergency response bag and inventory are inspected. Orica requires transporters carry out a prescribed number of similar field audits and spot checks.

Orica does not directly transport cyanide. Orica checks contractor training records annually on a site rotational basis and participates in emergency response drills as a monitor on Emergency Response Plan implementation

Subcontractors are included in all Orica’s reviews. Tolls subcontractors follow the same processes and maintain the same standards as Toll including involvement in emergency response drills; maintenance of emergency response equipment; and emergency response training.

**Standard of Practice 3.3**

Develop procedures for internal and external emergency notification and reporting.

in full compliance with

The operation is  in substantial compliance with Standard of Practice 3.3

not in compliance with

**Basis for this Finding/Deficiencies Identified:**

Orica is in Full Compliance with Standard of Practice 3.3.

Orica ensures that procedures for internal and external emergency notification and reporting are developed and implemented.

Orica transport is done by two carriers, Toll and ROTC, both of whom are fully accredited with ICMI. As such both of them have developed and implemented processes that ensure compliance with this code.

Procedures and current relevant information for notifying the shipper, the receiver/consignee, regulatory agencies, outside response providers, medical facilities and potentially affected communities of an emergency, are checked by Orica during its annual site reviews, and during the monthly driving of the routes with carriers and as part of the participation in emergency response drills and periodic audits.

Orica has a procedure that involves regular confirmation of emergency response contact numbers by test calling the relevant numbers. Orica also monitors contractors’ emergency response contacts lists.

**Standard of Practice 3.4**

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

in full compliance with

The operation is  in substantial compliance with Standard of Practice 3.4

not in compliance with

**Basis for this Finding/Deficiencies Identified:**

Orica is in Full Compliance with Standard of Practice 3.4.

Orica ensures that procedures for remediation of releases that recognize the additional hazards of cyanide treatment chemicals have been developed and implemented.

Procedures for remediation, such as recovery or neutralization of solutions or solids, decontamination of soils or other contaminated media and management and/or disposal of spill clean-up debris are all addressed in Orica's Emergency Response Plan Guide.

Orica's Emergency Response Plan Guide specifically prohibits the use of chemicals such as sodium hypochlorite, ferrous sulfate and hydrogen peroxide to treat cyanide that has been released into surface water.

**Standard of 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 Standard of Practice 3.5

not in compliance with

**Basis for this Finding/Deficiencies Identified:**

Orica is in Full Compliance with Standard of Practice 3.5.

Orica ensures that response procedures and capabilities are periodically evaluated and revised as needed.

Orica's Emergency Response Plan Guide includes provisions for:

- periodically reviewing and evaluating the contractor Emergency Response Plans.
- contractors periodically conducting mock emergency drills. Orica monitors implementation by periodically participating in the emergency response drills.
- contractors to evaluate their Emergency Response Plan's performance after its implementation and revise it as needed.

Orica ensures implementation and compliance through their annual review process, monthly driving of the routes with carriers, regular CAMS meetings and participating in emergency response drills.