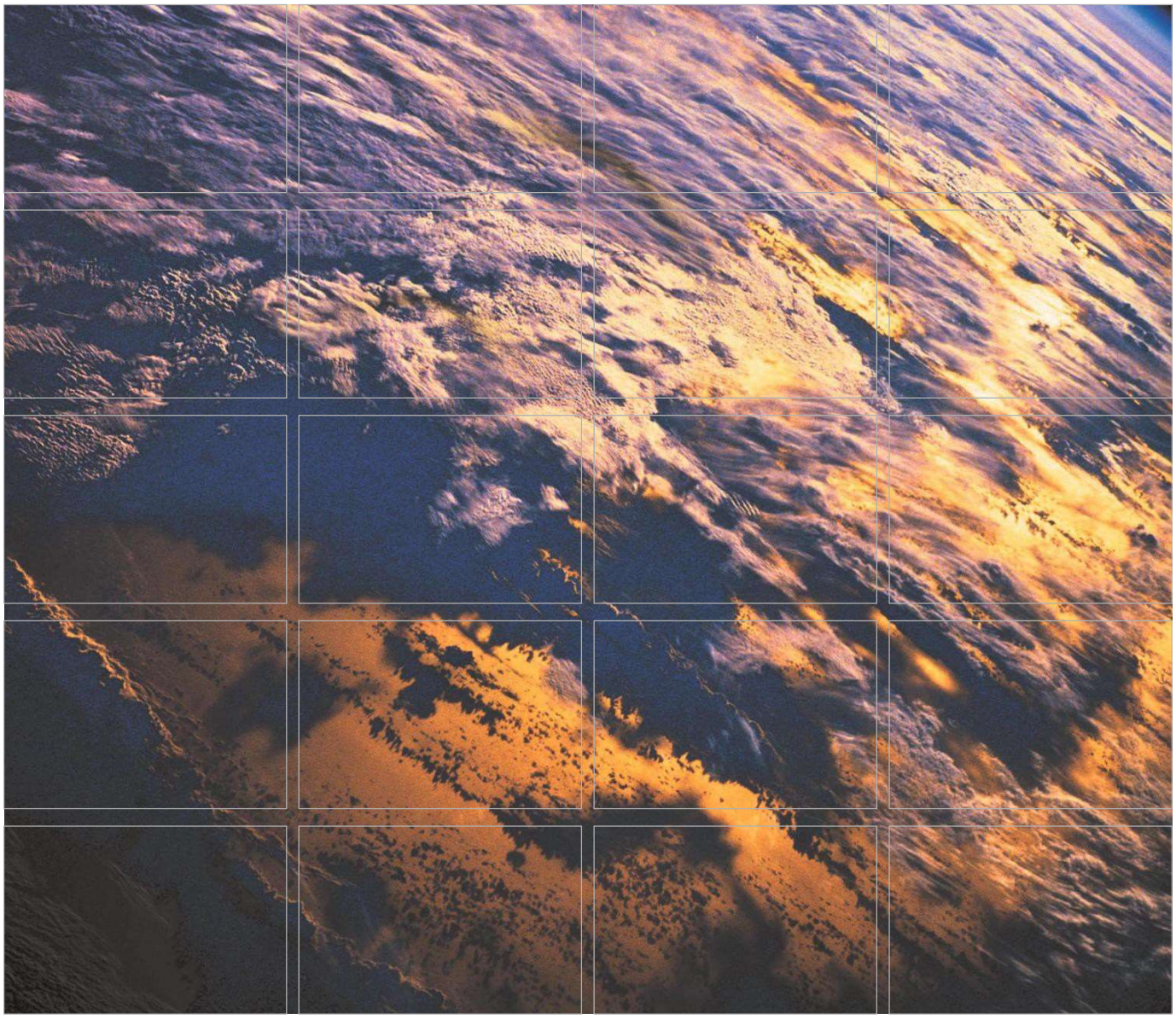

ICMC Recertification Audit of Freight Forwarders Kenya Limited- Summary Report

July 2018

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ERM Ref No: 0468585

Freight Forwarders Kenya Limited

ICMC Recertification Audit - *Summary Report*

20 July 2018

Prepared by: Environmental Resources Management (ERM)

For and on behalf of
Environmental Resources Management

Approved by: Philip Johnson

Signed:

Position: Partner

Date: July 2018

CONTENTS

1.0 SUMMARY AUDIT REPORT FOR CYANIDE TRANSPORTATION OPERATIONS

Name of Cyanide User Facility:	Freight Forwarders Kenya Limited
Name of Cyanide User Facility Owner:	Freight Forwarders Kenya Limited
Name of Cyanide User Facility Operator:	Freight Forwarders Kenya Limited
Name of Responsible Manager:	Michelle Hoareau – General Manager
Address:	Freight Forwarders Kenya Limited PO Box 38322 Mombasa
Country:	Kenya
Telephone:	+254 730 606 000
E-Mail:	michelle.hoareau@ffkgrp.com

2.0 LOCATION DETAIL AND DESCRIPTION OF OPERATION

Freight Forwarders Kenya Ltd

Freight Forwarders Kenya Ltd (FFK)was incorporated in 1973 following the amalgamation of three clearing and forwarding agents namely Kenya General Agency Ltd, Reynolds and Co Ltd and Wafco Ltd.

FFK became a Signatory to the Code in November 2007 and was certified as being fully compliant with the Code on 27 May 2008 and recertified in September 2011 and in May 2015.

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 over 30 years of experience, FFK has developed a network of subsidiaries and agents enabling the organisation to offer the following range of Clearing, Forwarding and Logistics services:

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

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- Transportation.

FFK has a close working relationship with Freight Forwarders Tanzania Limited (FFT) and both are part of Freight Forwarders Group (FFG).

Solid sodium cyanide transported by FFK is supplied by Samsung and Orica International PTE Ltd (Orica)packaged in heavy duty plastic bags inside nylon bulk bags which are packaged into UN approved wooden boxes within 20 foot shipping containers. At the time of the audit, FFK delivered to one client site within Tanzania and one in the DRC.

Allied Wharfage Ltd

Allied Wharfage Ltd (AWL) was formed in 1990 to provide warehousing and related services. AWL's interim storage facility is located off Magongo Road in the Changamwe district of Mombasa approximately seven kilometres (km) to the northwest of the Port of Mombasa and 11 km to the northwest of the city of Mombasa. The interim storage facility is close to the main Nairobi highway and Moi International airport. The yard covers an area of 10,144 m2 (2.5 acres) and is a roughly rectangular in shape with an entrance gate on the northern boundary. The yard holds transit bonded and is managed by AWL, a wholly owned company of FFK. The interim storage facility is a demarcated and bunded area within the yard sufficient to contain 48 shipping containers.

Shipping containers containing cyanide are held in the interim storage facility while customs documents are obtained (as the cyanide shipments are delivered to North Mara mine, in Tanzania or the Kibali Mine in the DRC, the cargo is considered bonded cargo (tax free)). In addition, clearance has to be given from the mine that the last section of road is in good order as this section of road can be affected by heavy rains. Therefore the shipments can be held in AWL's facility for up to two weeks. The shipping containers are never opened and the cyanide is not repackaged in any way. There was no cyanide present at the time of the audit.

The cyanide containers are handled by a Terex Reach Stacker. Clearing and forwarding services for AWL are undertaken by its principal company FFK, while transportation is undertaken by its group associated company, Transeast Limited.

Transeast Ltd

Transeast Ltd (Transeast) is located along the Mombasa – Nairobi highway, 2km past *Mazeras* centre. The entrance gate is about 100m from the highway. The company specialises in the transport of regular containerised cargo, bulk cargo, out of gauge cargo and Dangerous Goods within the East and Central African region. Transeast is a subsidiary of FFK who is also its customer for the transportation of cyanide.

Transeast transports all cyanide for FFK. They utilise a fleet of well-maintained trucks with assorted trailers to move cargo from the Port of Mombasa to its various client destinations.

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Cyanide is transported from AWL's interim storage facility along the Mombasa to Nairobi highway and through border point into Tanzania or the DRC. From the border, the cyanide is transported to the mine clients for offloading.

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SUMMARY AUDIT REPORT
AUDITORS FINDINGS

Freight Forwarders Kenya Limited is	☒ **in full compliance with**	**The International Cyanide Management Code**
	☐ in substantial compliance with	
	☐ not in compliance with	

Audit Company:	Environmental Resource Management Southern Africa (Pty) Ltd
Audit Team Leader:	Ed Perry, Lead Auditor
Email:	escafrika@gmail.com

Freight Forwarders Kenya Limited has not experienced any significant cyanide incidents or compliance problems during the previous three year audit cycle.

NAME OF OTHER AUDITORS

Lynton Brown ICMI pre-certified Transportation Technical Specialist

DATES OF AUDIT

The Re-certification Audit was undertaken between 23 April 2018 and 25 April 2018.

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 (ICMI) 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.

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PRINCIPLE 1 – TRANSPORT

Transport Cyanide in a Manner that Minimizes the Potential for Accidents and Releases

Transport Practice 1.1: Select cyanide routes to minimize the potential for accidents and releases.

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

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with Transport Practice 1.1; select cyanide transport routes to minimize the potential for accidents and releases.

FFK and Transeast have implemented a procedure for selecting transport routes that minimises the potential for accidents and releases. The cyanide transported by Transeast on behalf of FFK is for mine site customers in Tanzania and the DRC. All cyanide remains bonded for the Kenyan leg of the journey. The selection of the transport route within Kenya is therefore controlled by the Kenyan Government and the Transeast cyanide convoy is checked by Kenyan Customs Officers at three specific locations while travelling on Kenyan Roads.

The New Route Selection Policy SOP-FFG-002a, 27 March 2018 sets out the details to be followed that include a requirement to develop a risk assessment (known as a Cyanide Transport Route Risk Assessment) prior to each new route commencing.

Issues to be considered within the Route Risk Assessment include the following: Population density, Infrastructure (roadway, rail, port, runway, helipad) and Pitch and Grade, Prevalence and proximity of water bodies and fog.

FFK's procedure includes a requirement to complete a new Route Risk Assessment each year.

FFK have come to an agreement with the local Port Authorities to allow the containers to be transferred directly from the ship to the convoy, reducing the risks associated with storage at the Port. The containers are then transported to the AWL yard where the convoy either spends the night before starting the journey to the mine the next day or the containers are offloaded into the interim storage facility.

In addition, if changes to the road conditions are identified then the Route Risk Assessment is revised. The Convoy Leaders follow the directions in the Route Risk Assessment and convoy drivers follow this lead.

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Drivers are briefed on a regular basis (at the start of every consignment and at the start of each day) and warned of changes in route conditions (speed limits, construction work, etc.) and the measures required to mitigate the changes or increased risks. Convoy Leaders also advise others in the convoy of hazards ahead so they may take appropriate action. Interviews with Convoy Leaders confirmed that advice is provided at stop points. If the Convoy Leader stops then the whole Convoy will stop.

FFK and Transeast have a procedure to periodically re-evaluate the routes used for cyanide transport and take the measures necessary to manage identified hazards. However, major route changes are not practical given the limited number of routes available and the government policy that applies, which dictates the route that should be taken. Changes to conditions along the way result in requirements to modify operations

FFK and Transeast have consulted various stakeholders and applicable governmental agencies as necessary in the selection of routes and development of cyanide management measures.

- Routes within Kenya are selected by the Kenyan Government. The Department of Occupational Health and Safety Services (DOHSS) in Kenya when undertaking the route selection and assessment of risk management measures, negated the need for public consultation.

FFK and Transeast HSE Managers performed a cyanide information road trip each year to consult with emergency responders and support agencies along the transport route in Kenya, Tanzania and the Democratic Republic of Congo (DRC).

FFK and Transeast use convoys for all cyanide shipments. FFK and Transeast personnel, including Transeast's HSE Manager indicated that security is not usually a significant issue. They have carried out a number of convoys since the last recertification audit and no security issues have been experienced. They also notify the police in each region prior to starting each convoy and call the Regional Police at each region as they enter it during the convoy. Each convoy is led by a support vehicle and fitted with signs and flags, and uses dipped headlights. FFK and Transeast always use convoys when transporting cyanide. Convoys are used as a means of helping to manage the risks of the road conditions (traffic, congested areas and poor roads) and responding to emergencies.

The HSE & Training Manager advised that there is no effective state emergency response facility in Tanzania and Kenya, such as a fire brigade; consequently FFK manages its own emergency response in preference to subscribing to any private emergency response service.

There are no formal mutual assistance programs in place with the mine sites along the transport routes. However, the mines will respond to any emergency with the necessary assistance, which has happened in the past when there have been incidents.

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FFK subcontracts the transport of cyanide to Transeast and a Service Level Agreement signed by the Managing Director of FFK is in place with Transeast, which includes a requirement to comply with the provisions of the International Cyanide Management Code". FFK also has a Service Level agreement with AWL for the interim storage of cyanide, which includes a requirement to comply with the provisions of the International Cyanide Management Code.

These are open agreements, which remain in place until halted by either party. Under these agreements FFK is allowed to assess the performance of Transeast and AWL.

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.

The operation is
- ☒ **in full compliance with**
- ☐ in substantial compliance with **Transport Practice 1.2**
- ☐ not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with 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.

FFK, through its subcontractors Transeast and AWL, only uses trained and competent operators to drive its trucks and container loaders.

There is no requirement in Kenya, Tanzania or the DRC for drivers to be licensed for dangerous goods transport. Nonetheless, Transeast and AWL has a training scheme to ensure that all drivers and equipment operators are competent.

Operators (including the AWL Stack Reacher operator) are required to undertake the following training:

- General Induction;
- Cyanide Awareness, which includes Emergency Response and Cyanide First Aid;
- First Aid certification for Convoy Leaders and Emergency Response personnel; and
- Convoy Standard Operating Procedures (SOPs).

Transeast maintains a record of training provided to its drivers and other personnel in the form of a matrix, which is continually updated. This matrix was observed by the auditors. Transeast

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requires drivers to take practical driving tests before they are employed. This testing is performed by the Transport Coordinator

Drivers and Convoy Leaders (from Transeast) were interviewed about their knowledge of the procedures and practices involving cyanide and provided good responses indicating effective knowledge and experience

FFK subcontracts the transport of cyanide to Transeast and a Service Level Agreement signed by the Managing Director of FFK is in place with Transeast, which includes a requirement to comply with the provisions of the International Cyanide Management Code". FFK also has a Service Level agreement with AWL for the interim storage of cyanide, which includes a requirement to comply with the provisions of the International Cyanide Management Code.

These are open agreements, which remain in place until halted by either party. Under these agreements FFK is allowed to assess the performance of Transeast and AWL.

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 operation is in full compliance with Transport Practice 1.3; ensure that transport equipment is suitable for the cyanide shipment.

FFK through its subcontractors Transeast and AWL only use equipment designed and maintained to operate within the cyanide loads it will be handling.

Equipment used to transport cyanide loads, consists of road vehicles (tractor units and trailers) that were purchased to a design specification appropriate for the cyanide transport task. Low loader skeleton trailers have now been purchased for the delivery of cyanide to help reduce the risk of roll overs

FFK in conjunction with Transeast and its trailer suppliers (Nelion Trading Limited) have determined that the maximum trailer loading capacity is 45 tonnes for the trailers employed by Transeast. The Kenyan Gross Vehicle Mass (GRV) allowed on roads is 48 tonnes, and 53 tonnes in Tanzania. Orica containers supplied to FFK, including the shipping container, are approximately 25 tonnes. The truck is around 10 tonnes and the trailer around 5.3 tonnes. This ensures that the total loaded vehicle capacity is well within the GRV compliance weight in Kenya and Tanzania.

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FFK has documented to Transeast and AWL that no additional loads should be added to the cyanide loaded trailers. The Convoy Leaders check this during their daily inspections.

FFK via AWL uses a Terex Reach Stacker vehicle to move cyanide but only in fully packed freight containers. The lift truck capacity of the Terex Reach Stacker is 45 tonnes and Orica limits the mass of containers sent to Kenya to approximately 25 tonnes, including the container.

Transeast and AWL carry out preventative maintenance of vehicles (including tractor, trailer and Reach Stacker) on a regular basis. Records for each vehicle are retained by the maintenance departments.

The Reach Stacker is serviced by the supplier on an annual basis with interim work undertaken by the in-house maintenance department.

Following a completion of a cyanide convoy the trailer and truck will undergo regular maintenance. In addition, the Mercedes trucks will undergo service at the suppliers (DT Dobie) at least every 20,000 km.

FFK with Transeast and AWL has the following procedure SOP-TE–05 Storage, Loading, & Offloading Policy and Procedures in place. This procedure does not need to include the requirement to prevent the overloading of trucks as each truck only carries one shipping container of cyanide approximately 25.5 tonnes in total weight. This specification is included in this procedure.

FFK subcontracts the transport of cyanide to Transeast and a Service Level Agreement signed by the Managing Director of FFK is in place with Transeast, which includes a requirement to comply with the provisions of the International Cyanide Management Code". FFK also has a Service Level agreement with AWL for the interim storage of cyanide, which includes a requirement to comply with the provisions of the International Cyanide Management Code.

These are open agreements, which remain in place until halted by either party. Under these agreements FFK is allowed to assess the performance of Transeast and AWL.

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Transport Practice 1.4: Develop and implement a safety program for the 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 operation is in full compliance with Transport Practice 1.4; develop and implement a safety program for transport of cyanide.

Procedures are in place to ensure that the integrity of the producer's packaging is maintained. Only one container is allowed per trailer, which is stated in the training presentations. FFT ensures seals are checked on all containers and this is recorded on the Pre-Trip Truck Inspection Checklist. As part of the checks the seals are checked en-route by the Drivers and the Convoy Leader.

All containers transported are held in place on the vehicles using twistlocks and angle plates. At the mine, the consignee signs chain of custody document to acknowledge receipt of the container in a good condition. He checks the condition of the load during the unpacking process and reports on the standard of the shipping container. The Delivery Manifest is signed to confirm the seals were in place on delivery and the delivery was acceptable.

The auditors did not observe any instances where the seals were not in place or where there was an unsatisfactory delivery.

As all cyanide is delivered by sea to the Port of Mombasa, containers arrive with placards already in place as attached by the supplier, in accordance with the International Maritime Dangerous Goods (IMDG) Code. These placards remain on the containers until the containers are unpacked at the mine sites. These provisions and the attachment of the IMO marine pollutant label ensure that all consignments comply with international standards.

The placards used on containers, include:

- UN Numbers; and
- Dangerous Goods Class labels, both of which are prescribed in the United Nations Model Regulations and the IMDG Code.

The Dangerous Goods Transport Regulations in Kenya and Tanzania only require that dangerous goods and their hazards be clearly identified to others. The vehicles therefore also carry a "local" sign on the front of the vehicle which reads: "Danger Poison" in English and Swahili. All vehicles in the convoy are fitted with this sign at the front of the vehicle before they set off. Red flags are also fitted to the lead vehicle and the vehicles carrying containers.

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The safety program implemented by the transporter includes the following:

a) Vehicle inspections prior to every departure/shipment;
b) A preventative maintenance program;
c) Limitations on operator/driver hours;
d) Procedures to prevent loads from shifting;
e) Procedure to modify or suspend transportation if conditions require it;
f) A drug abuse prevention program; and
g) Retention of records documenting that the above activities have been conducted.

FFK subcontracts the transport of cyanide to Transeast and a Service Level Agreement signed by the Managing Director of FFK is in place with Transeast, which includes a requirement to comply with the provisions of the International Cyanide Management Code". FFK also has a Service Level agreement with AWL for the interim storage of cyanide which includes a requirement to comply with the provisions of the International Cyanide Management Code.

These are open agreements, which remain in place until halted by either party. Under these agreements FFK is allowed to assess the performance of Transeast and AWL.

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 transporter does not ship cyanide by sea or air.

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Transport Practice 1.6 **Track cyanide shipments to prevent losses during transportation.**

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

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with Transport Practice 1.1; track cyanide shipments to prevent losses during transport.

Vehicles are able to communicate with the transport company, the mining operation, the cyanide producer/distributor and emergency responders. Transeast vehicles transporting for FFK have several means to communicate with FFK, with Transeast head office in Mombasa, with emergency responders, and with the relevant mining operation.

All vehicles transporting cyanide have GPS fitted and are tracked constantly by Transeast. Alarms are fitted to the tracking system, which is monitored constantly during the cyanide convoys. The alarms register when the drivers speed, stop for any duration, or move outside the travel corridor. A panic alarm is also fitted.

Each driver within the convoy has a mobile phone and the numbers are provided at the start of the convoy so drivers can get in touch with Convoy Leaders or vice versa.

Transeast's Pre-trip Truck Inspection Checklist includes checking the details of the communication equipment. Emergency response guidance and contact information is carried in the convoy.

In the event of an emergency, Convoy Leaders telephone Transeast headquarters and FFK and the relevant mine (as well as local emergency responders). The mine sites are advised of dispatch time, estimated arrival time and extensive information on the container that was dispatched.

All communication equipment is checked periodically each day to ensure it functions properly. Transeast Convoy Leaders report to Transeast personnel in Mombasa each day. In addition, FFK receive an email on the condition of the convoy every morning.

There are no communication blackout areas within Kenya on the transport routes used by Transeast. These have been checked and as long as both telecommunications providers (Airtel and Safaricom) are available on the mobile phones then all areas are covered. There are no blackout areas along the routes due to the near universal coverage of the cell phone network in Tanzania and DRC between the boarder and the mine site. Therefore, no special procedures have been implemented.

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Transeast has developed and follows procedures to track the progress of cyanide shipments. Prior to the cyanide convoy departing the timing of the convoy between the pick-up point and the mine is estimated. The mine is then informed as to the estimated time of arrival. The progress of the cyanide convoy is then continuously monitored using a GPS tracking system that allows the position and speed of the convoy to be viewed within the Transeast offices in real time.

The transporter uses inventory controls and chain of custody documentation to prevent the loss of cyanide during shipment. Chain of custody records are obtained by FFT from the supplier of cyanide. This chain of custody information details the amount of cyanide in transit with one sheet for each container. Shipping documents are included as part of every consignment. The delivery manifests are signed off by the mine representative following the unloading of the containers at the mine to confirm the containers were delivery with the seals intact and the stated quantity of cyanide has been delivered.

The full Material Safety Data Sheet (MSDS) for solid sodium cyanide is kept by the Convoy Leader, which describes the necessary handling precautions. A summary data sheet that describes the necessary handling precautions is also included within the driver's delivery folder.

FFK subcontracts the transport of cyanide to Transeast and a Service Level Agreement signed by the Managing Director of FFK is in place with Transeast, which includes a requirement to comply with the provisions of the International Cyanide Management Code". FFK also has a Service Level agreement with AWL for the interim storage of cyanide, which includes a requirement to comply with the provisions of the International Cyanide Management Code.

These are open agreements, which remain in place until halted by either party. Under these agreements FFK is allowed to assess the performance of Transeast and AWL.

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PRINCIPLE 2 – INTERIM STORAGE

Design, Construct and Operate Cyanide Trans-shipping Depots and Interim Storage Sites to Prevent Releases and Exposures

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

The operation is

☒ **in full compliance with**

☐ in substantial compliance with **Transport Practice 2.1**

☐ not in compliance with

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with Transport Practice 2.1; store cyanide in a manner that minimizes the potential for accidental releases.

Warning signs are posted alerting workers that cyanide is present and that smoking, open flames, eating and drinking are not allowed and what personal protective equipment must be worn.

AWL's interim storage facility is located off Magongo Road is in a light industrial area within proximity of a residential area approximately 11 km to the northwest of Mombasa. The entrance gate has signage indicating the following:

- No smoking, eating and drinking;
- No naked flames; and
- Pictograms of protective footwear and hard hats.

At the time of the site visit no cyanide was held at the interim storage facility. The area where the cyanide is kept is demarcated by a bund and reinforced concrete ramp. It covers an area of approximately 456 m^2 with a 0.2 m high reinforced concrete bund. When cyanide is held two warning signs are placed in the interim storage facility, one at the entrance which says Hatari – Danger, Sodium Cyanide On Site Keep Clear' and one by the bund saying 'Hatari – Danger, Cyanide Storage Area – Keep Out'. Hatari means danger in Swahili.

When present the shipping containers are clearly labelled as containing cyanide. Training is provided in the use of appropriate Personal Protective Equipment (PPE). The cyanide is not removed from the shipping containers.

AWL's facility is a Bonded Store (pre-customs) and all cyanide containers remain bonded until they arrive at the mine site destination. All cyanide IBCs are stored in locked and sealed shipping containers. When held the containers are placed door to door so it is not possible to open the sealed doors.

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AWL's facility is secured by a block wall approximately three metres high and topped with a multiple strand electric fence approximately one metre high. The steel entrance gates are also topped by the electric fence, are alarmed and have motion sensors. The security guards have panic alarms.

There are two guards during the day and two guards during the night. The facility has CCTV which includes six different cameras. If the alarms are activated an additional nearby patrol from the private security company will investigate and the alarm will register in the local police station.

Cyanide is separated from incompatible material with appropriate barriers to prevent mixing. Acids, oxidisers and flammable materials are separated and stored in separate sections of the interim storage facility more than 10 m from the cyanide bunded area. Explosives are not stored within AWL's facility. All cyanide on-site is in solid form in UN approved standard wooden boxes in sealed freight containers that are stored on interlocking pavers over concrete.

Cyanide is stored so as to minimize the potential for solid cyanide to come into contact with water. The solid cyanide is packed by the cyanide manufacturer in heavy duty plastic bags inside nylon bulk bags which are packaged into UN approved wooden IBCs which are in turn placed within shipping containers for transportation. When required, the cyanide shipping containers are stored on a hardstand area.

Cyanide is stored with adequate ventilation to prevent the build-up of hydrogen cyanide gas. All cyanide in AWL's interim storage facility is in transit; none is removed from the freight containers. Shipping containers are stored in the open air and are loaded directly onto trucks.

There are systems in place to contain any spilled cyanide materials and to minimize the extent of a release. Only solid cyanide is stored at AWL's interim storage facility in a bunded area. The cyanide is stored within heavy duty plastic bags inside nylon bulk bags which are packaged into UN approved wooden boxes. These are then placed in a shipping container. The emergency response plan includes procedures to manage spills.

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Ensure that Process Controls are Protective of the Environment

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

The operation is

☒ **in full compliance with**

☐ **in substantial compliance with** **Transport Practice 3.1**

☐ **not in compliance with**

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with Transport Practice 3.1; prepare detailed emergency response plans for potential cyanide releases.

The Emergency Response Plan is an integral part of the FFG Cyanide Procedures Rev-14, 18 January 2018. The document covers both FFK, Transeast and AWL. This is the document to be used in the event of an emergency involving Sodium Cyanide.

The Cyanide Procedures Document has been adapted by FFG from Orica's Emergency Response Guide. The Orica Emergency Response Guide was developed by Orica Mining Chemicals to provide guidance in the development of specific site and transport route emergency response plans for the management of incidents involving spillage of Orica sodium cyanide product. The document has been modified by FFG to suit the conditions of Kenya, Tanzania and the DRC.

It is stated on the front page of the Cyanide Procedures that a copy must be carried by all escorts of the cyanide convoys. The Cyanide Procedures includes an Emergency Flow Chart that guides the management of an incident.

The Cyanide Procedures is appropriate for the selected transportation route(s) or interim storage facility. The Cyanide Procedures include the following:

- Basic Incident Flow Chart for Cyanide Convoys;
- Basic Emergency Response Procedures; and
- Emergency Response Guides for specific scenarios.

In addition, there are route risk assessments for specific routes, which details the risks associated with specific routes.

The Cyanide Procedures considers the physical and chemical form of the cyanide. The Scope section of the Cyanide Procedures states

"Approximately 1.1 tonnes of solid Cyanide, in the form of briquettes, is packaged inside heavy-duty plastic bags inside nylon bulk bags. These bags are then placed inside IBC standard wooden boxes. Depending

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upon the client requirements there are between 17 & 20 boxes loaded into a steel Rear-door Sea Containers for shipment."

The Basic Emergency Response Procedures and Emergency Response Guides describe scenarios for the solid briquette form of cyanide and within the shipping containers.

The Plan considers the method of transport. The Scope section of the Cyanide Procedures states:

"Road transport is now the only means of transporting dangerous goods including sodium cyanide in Tanzania". Cyanide is transported by FFK from Mombasa to North Mara Mine in Tanzania. This is also the case for transportation of cyanide to Kibali Mine in the DRC. The Cyanide Procedure therefore explicitly exclude any other form of transportation.

The emergency response guide describes scenarios for interim storage and within a sea container. The Basic Emergency Response Procedures and Cyanide Convoy Procedures relate to the transport of solid cyanide by road and the interim storage at the AWL storage facility.

All transport is by road. The road type varies from tarmac to dirt road. The Route Risk Assessments provide information on the condition of the road (surface type, number of carriageways and incline), specific hazards at different points along the route and specific precautions to be undertaken such as use of high gears and speed limits. The Route Risk Assessments detail local hospitals and police departments and air strips that can be used in the event of an emergency.

The Plan considers the design of the vehicles being used and the storage facility. The solid cyanide is packed by the cyanide manufacture in heavy duty plastic bags inside nylon bulk bags which are packaged into UN approved wooden IBCs which are in turn placed within metal shipping containers for transportation.

The Cyanide Procedures include incidents where an incident occurs to the convoy but all of the solid cyanide is still contained within the metal shipping container and those incidents where it is spilt from the shipping container. The incidents at the interim storage facility that are covered by the cyanide procedures are where the solid cyanide is spilt from the shipping container.

The Plan includes descriptions of response actions as appropriate for anticipated emergency situations.

The Cyanide Procedures document the role of the Clients (mine sites) where emergency response and medical facilities are available.

On transport routes regional hospitals and police are listed in the emergency contact information including individual names and roles. These people or their representatives are visited annually as part of the Community Awareness Campaign.

The supplier Orica provides an Emergency Response facility whereby they operate a 24 hour, 7 day a week emergency telephone line to provide assistance and advice. The Cyanide Procedures document has an Emergency Response Procedure Flow chart.

The community does not have a designated role in the event of an emergency other than being represented by the police.

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Transport 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** **Transport Practice 3.2**
- ☐ **not in compliance with**

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with Transport Practice 3.2; designate appropriate response personnel and commit necessary resources for emergency response.

The transporter provides emergency response training for appropriate personnel.

Operators (including the AWL Stack Reacher operator) are required to undertake the following training:

- General Induction;
- Cyanide Awareness, which includes Emergency Response and Cyanide First Aid;
- First Aid certification for Convoy Leaders and Emergency Response personnel; and
- Convoy SOPs.

The training presentations were found to be comprehensive in the information they contained. Following the presentations, the drivers are required to undertake a test on their understanding. Transeast maintains a record of training provided to its drivers and other personnel in the form of a matrix, which is continually updated.

Mock drills have also been undertaken as part of the training.

Drivers and Convoy Leaders (from Transeast) were interviewed about their knowledge of the procedures and practices involving cyanide and provided good responses indicating effective knowledge and experience.

The Cyanide Procedures document identifies the key roles and responsibilities in the event of an emergency for the following positions:

- Cyanide Code Manager
- Cyanide Convoy Leader;
- Emergency Response (ER) Truck Driver;
- Convoy Lead Drivers;
- Contact One (this is the person who acts as the main coordinator in the event of an emergency with their responsibilities detailed in the Cyanide Procedures)

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- Storage Yard Supervisor;
- Storage Yard Worker; and
- Local Authorities.

The requirements are clear and unambiguous and are also covered in the training programmes.

All emergency response equipment is taken in the Emergency Response vehicles as no other equipment is available en-route. FFK maintains three emergency response vehicles containing emergency response equipment and PPE. On every convoy an emergency response vehicle follows the convoy.

FFK has an Emergency Vehicle Response Checklist which lists all PPE and Emergency Response equipment. This is checked off before every trip dated and signed by the convoy leader and filed as part of the Convoy Reports.

The transporter has the necessary emergency response and health and safety equipment, including personal protective equipment available during transport.

Transport operators receive initial and periodic refresher training in emergency response procedures including implementation of the Cyanide Procedures.

The transport company has clearly delineated the roles and responsibilities of its sub-contractors during an emergency response situation. FFK is a clearing and forwarding company with Transeast undertaking the actual transportation of cyanide. The main on the ground responsibility therefore rests with Transeast. The Cyanide Procedures document identifies the key roles and responsibilities in the event of an emergency.

Transport Practice 3.3: Develop procedures for internal and external emergency notification and reporting.

The operation is

- ☒ **in full compliance with**
- ☐ **in substantial compliance with**
- ☐ **not in compliance with**

Transport Practice 3.3

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with Transport Practice 3.3; develop procedures for internal and external emergency notification and reporting.

There are procedures and current contact information for notifying the shipper, receiver/consignee, regulatory agencies, outside response providers, medical facilities and potentially affected communities in the event of an emergency.

The Cyanide Procedures includes an Emergency Flow Chart that guides the management of an incident. In addition, the Cyanide Procedures contain information for notifying the relevant organisations.

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The Cyanide Procedures document the role of the Clients (mine sites) where emergency response and medical facilities are available.

Systems are in place to ensure that internal and external emergency contact information and reporting procedures are kept current.

On transport routes regional hospitals and police are listed in the emergency contact information including individual names and roles. These people or their representatives are visited annually as part of the Community Awareness Campaign. The Cyanide Procedures document is given to them and is discussed along with their role in emergency situations.

The GCLA in Tanzania is contacted at least on a monthly basis and contact numbers are updated if required.

Mines are contacted at least on a monthly basis.
Orica and AGR emergency phone numbers are checked annually.

Transport Practice 3.4: Develop procedures for remediation of releases that recognize the additional hazards of cyanide treatment chemicals.

The operation is

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

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with Transport Practice 3.4; develop procedures for remediation of releases that recognize the additional hazards of cyanide treatment chemicals.

There are 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.

The Emergency Response Guide RG 7 'Decontamination of a Spill of Solid Cyanide into Soil' details the decontamination of a spill of solid cyanide into soil and also includes details if water is impacted.

It includes a procedure for disposal of cyanide contaminated soil and wash water. It states that contaminated soil and spilt material will be disposed of at a mine site heap leach facility/tailings. There are also procedures for dealing with a dry spill and for dealing with a wet spill.

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

The Emergency Response Guide RG 6 Dry Sodium Cyanide Spill to a Waterway (part of the Cyanide Procedures) states that " FFT, FFK & Orica Mining Chemicals subscribe 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."

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Transport Practice 3.5: Periodically evaluate response procedures and capabilities and revise them as needed.

The operation is

☒ **in full compliance with**

☐ **in substantial compliance with** **Transport Practice 3.5**

☐ **not in compliance with**

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with Transport Practice 3.5; periodically evaluate response procedures and capabilities and revise them as needed.

There are provisions for periodically reviewing and evaluating the adequacy of the Cyanide Procedures and they have been and will continue to be implemented. The Cyanide Procedures are currently on Revision 14.

The Document History section of the Cyanide Procedures details the date of publication, new revision number and a description of the revision.

The Review and Audit Process Section of the Cyanide Procedures states that the responsible people are required to coordinate a review at least annually, and after any of the following resulting from or affected by the transportation of cyanide:

- Incidents;
- Emergencies;
- Emergency exercises; and
- Transportation audits and assessments.

Amendments made to the document are to be noted within the "Document History" section and implemented immediately.

There are provisions for periodically conducting mock emergency drills and they have been and will continue to be implemented.
The Cyanide Procedures state that: "Emergency response simulation drills are done at least at least every six months but in stages whereby one or two specific aspects of the plan are evaluated. E.g. Communications systems, Yard Response, Driver Response, etc. This is usually done as a desk top exercise.

"Full scale incident scenario including interaction with external agencies such as GCLA, Mining Companies, Police, Fire Service and a Hospital or Clinic will be done once every three years and can be beneficial in evaluating the overall plan."

There is a procedure to evaluate the performance of the Plan after its implementation and this has been and will continue to be followed.

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The Cyanide Procedures are currently on Revision 14. There have been no cyanide incidents or emergencies within the last 3 years.

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