ICMC Recertification Audit of Freight Forwarders Tanzania Limited-
Summary Report

July 2018

www.erm.com
ERM Ref No: 0462313

Freight Forwarders Tanzania 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

This report has been prepared by Environmental Resources Management the trading name of Environmental Resources Management Limited, with all reasonable skill, care and diligence within the terms of the Contract with the client, incorporating our General Terms and Conditions of Business and taking account of the resources devoted to it by agreement with the client.

We disclaim any responsibility to the client and others in respect of any matters outside the scope of the above.

This report is confidential to the client and we accept no responsibility of whatsoever nature to third parties to whom this report, or any part thereof, is made known. Any such party relies on the report at their own risk.
## CONTENTS

1.0  Summary Audit Report for Cyanide Transportation Operations  
2.0  Location Detail and Description of Operation  
Principle 1 – Transport  
Principle 2 – Interim storage  
Principle 3 – Emergency response
1.0 SUMMARY AUDIT REPORT FOR CYANIDE TRANSPORTATION OPERATIONS

Name of Cyanide User Facility: Freight Forwarders Tanzania Limited
Name of Cyanide User Facility Owner: Freight Forwarders Tanzania Limited
Name of Cyanide User Facility Operator: Freight Forwarders Tanzania Limited
Name of Responsible Manager: Sadiki Yusufu
Address: PO Box 79658
             Dar-es-Salaam
Country: Tanzania
Telephone: +255653-529050/679823732
E-Mail: hse@ffwdt.com

2.0 LOCATION DETAIL AND DESCRIPTION OF OPERATION

Freight Forwarders Tanzania Limited (FFT) became a Signatory to the Code in November 2007 and was certified as being full compliant with the Code on 22 May 2008 and has been recertified in 2011 and 2015.

FFT coordinate cyanide transportation within Tanzania, and subcontracts the trucking component of transportation to Golden Coach Limited (GCL), who are certified to the International Cyanide Code in their own right, and Mainline Carriers Limited (MCL). The trucks supplied by the contractors are accompanied by FFT escort vehicles.

FFT has been transporting cyanide since 1998 when large scale gold mining started in Tanzania. Initially the transportation was by rail as the roads were of a poor standard. In 2003 the transportation switched to road due to infrastructure improvements and has remained so since that time.

Solid Sodium Cyanide manufactured by Orica Australia Limited (Orica), Australia Gold Reagents (AGR) and Samsung Construction & Trading (SCT) in Korea, is packaged in Intermediate Bulk Containers (IBC), which are in turn packed into a container. The containers contain 17 to 20 1.1 ton IBCs – depending on Client requirements and are delivered by ship to the Port of Dar es Salaam, Tanzania. The port is operated by the Tanzania Ports Authority (TPA).

At the Port of Dar es Salaam, the containers are unloaded using dockside container handling equipment by the Tanzania International Container Terminal System (TICTS). The containers are arranged in a group, away from other dangerous goods

The containers are then moved to the Inland Container Depot (ICD), a government licensed container storage depot that is the only one in Dar es Salaam licensed to accept dangerous goods. Once the various customs and import documents are cleared the containers can be collected by
FFT for transportation to its Mbagala yard. The convoy from the ICD the either remains in the yard until the following morning from where it starts the journey to the mine or if off-loaded for transportation at a later date. The Mbagala yard is therefore designated as an interim storage facility.

The FFT Mbagala Storage Facility is located off Kilwa Road in the Mbagala Industrial area in the south part of Dar es Salaam.

The convoys to the mine sites are comprised of 10 trucks each carrying one shipping container together with the relevant escort vehicles. This is the maximum number of trucks carrying dangerous goods in one convoy that is allowed by the Government Chemist Laboratory Agency (GCLA). The GCLA is the Tanzanian Government regulator for dangerous goods management.

**Mainline Carriers Ltd**

Mainline Carriers Ltd (MCL) has been in operation for over 20 years is located at Mbagala Industrial Estate in the south of Dar es Salaam. The MCL yard is adjacent to the FFT Yard. MCL provide services throughout Tanzania and its neighbouring countries such as Kenya, Uganda, Malawi, Rwanda, Burundi, DRC and Zambia as well as long haul trips to Johannesburg, South Africa. The company specialise in hazardous goods including cyanide and various other materials. The Company maintains its vehicles at its own workshop which was visited as part of the audit. It has preventive maintenance systems in place to ensure that vehicles are checked regularly.
SUMMARY AUDIT REPORT
AUDITORS FINDINGS

Freight Forwarders 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

There has been one transportation incident involving the transportation of cyanide since the previous recertification audit on 23 September 2014, which was subsequently reported to ICMI by Freight Forwarders Tanzania Limited. No cyanide was released into the environment.

The auditors observed the incident report of the 13 June 2017 a summary of which follows.

“At approx. 09:40 (17 May 2017) the driver of truck T281AZB with trailer T865AQP carrying a Container of Sodium Cyanide (Convoy position 7) was traveling at 43 kph (from GPS tracking) just after the llogi turning to Geita. The driver said he experienced leading up to harsh bouncing due to mini-potholes on the road causing the truck and trailer to bounce to the side of the road. The driver stated that as he turned the steering wheel to bring the truck away from the edge of the road the steering column broke.

The convoy leader called "Contact One" and the Incident protocol was initiated. The container and area were tested for HCN Gas - none registered Bulyanhulu mine was contacted by FFT to lend assistance. They sent an ambulance and an Emergency Response Team (ERT) with a 35T crane. The driver sustained facial injuries and was transported to the Bulyanhulu Hospital for treatment. The Container was loaded onto another Trailer and transferred to the mine site. The Rig and Trailer were loaded onto 2 more trailers and placed in the Police Impound.”

It was determined that the steering column broke as a result of the accident. The accident was caused due to “turning too sharply, even at lower speeds, the vehicle can roll over fairly easily. “

The outcome was “step-deck trailers were introduced to overcome the problem”. In addition to emphasising this as health and safety meetings.

NAME OF OTHER AUDITORS

Lynton Brown ICMI pre-certified Transportation Technical Specialist

Freight Forwarders Tanzania Limited
Name of Facility

Signature of Lead Auditor
8 July 2018
Date
DATES OF AUDIT

The Re-certification Audit was undertaken between 19 April 2018 and 21 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 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.

Freight Forwarders Tanzania Limited
Name of Facility

Signature of Lead Auditor

8 July 2018
Date
**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.

- [ ] in full compliance with
- [ ] in substantial compliance with
- [ ] not in compliance with

**Transport Practice 1.1**

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.

FFT has developed and implemented a policy for the selection of transport routes that minimises the potential for accidents and releases or the potential impacts of accidents and releases. The New Route Selection Policy FFT/QHSE/NRSEPY/002-17-Rev 09 sets out the details to be followed, which include a requirement to develop a risk assessment, known as a Cyanide Transport Route Assessment, prior to any new routes being undertaken.

Issues considered within these assessments include:

- Population density. Areas where population density is high are identified within the Cyanide Transport Route Assessment and drivers advised to exercise caution.

- Infrastructure (roadway, rail, port, runway, helipad) and Pitch and Grade. Transport is only via roads but the condition of the road (tarmac or earth) is noted within the Cyanide Transport Route Assessment and details of the gradient are provided along with advice to the convoy on exercising caution/being aware of speed limits/using low gears etc. where required.

- Prevalence and proximity of water bodies and fog. Within the Cyanide Transport Route Assessment water bodies or impact of water are noted and advice provided. For example, advice is provided about exercising caution when turning due to the problems of parts of roads being washed away by rain.

Only a single route is available for the delivery of cyanide from the Port of Dar es Salaam to individual mine customers due to the location of delivery points and the location and condition of the routes available.

Shipping containers of cyanide are first taken to the ICD (Inland Container Depot) by PMM from where they are collected by MCL. The ICD is the only facility approved by the Government for the storage of dangerous chemicals as an overflow storage facility for the Port or Dar es Salaam.
containers are then taken to the Mbagala Yard operated by FFT for interim storage or for the trucks to be stored overnight before starting the journey the following day. Alternative routes between the ICD and the Mbagala Yard were assessed and the safest one selected.

The transporter has implemented a procedure to evaluate the risks of selected cyanide transport routes and has taken measures to manage these risks.

The transporter documents the measures taken to address risks associated with the selected routes.

The measures taken to address risks identified with the selected routes are documented in the Transport Route Risk Assessment Dar es Salaam to all mines in Tanzania and Democratic Republic of Congo, Part 1 and Part 2, 01 August 2017.

FFT has produced a route risk assessment for the transportation of solid cyanide from the ICD in Dar es Salaam to the following gold mines: North Mara Mine; Buzwagi Mine; Bulyanhulu Mine; and Geita Gold Mine.

Since the last recertification audit in 2014 the Golden Pride Mine and the Tulawaka mine have closed and transportation to Shanta Mine, Twangiza Mine and Namoya Mine have ceased.

The convoy leaders follow the directions in the cyanide transport route assessments, and drivers as part of the convoy follow this lead. Within the Cyanide Transport Route Assessments there are descriptions of existing controls, (e.g., speed bumps, ensuring no trains before crossing rail lines) and driver actions to improve controls and thereby reduce the risks (e.g., use low gears, decrease speed).

FFT implements a procedure to regularly re-evaluate the risks of selected cyanide transport routes and takes measures necessary to manage these risks. Route changes are mostly not practical given the limited number of routes available between Dar es Salaam and the mine sites. However, changes to conditions along the route may result in instructions to modify operations. For example, convoys may have to park up when flood conditions are encountered or halt in periods of heavy rain.

These route risk assessments are formally reviewed on an annual basis when a cyanide awareness campaign is undertaken. Any changes to the route are included in the route risk assessments. In addition, any localised or temporary changes to the route are noted in the Trip Report created after the completion of a trip. The Convoy Reports are used to brief drivers at the start of every trip and warn of changes in route conditions e.g. construction work, etc. Convoy leaders also feed information back through telephone text messages.

FFT have consulted various stakeholders and relevant governmental agencies as necessary in the selection of routes and development of cyanide management measures.
The GCLA is the Tanzanian Government regulator for dangerous goods management and FFT has discussed the route selection and cyanide management practice, including providing emergency response procedures to this regulatory authority. Before each trip FFT contacts GCLA to inform them about the convoy. GCLA issue a permit to FFT to carry out the trip. GCLA then contact all the relevant local police to inform them that the convoy will pass through their areas. When the convoy stops at, or is close to, a population centre, the FFT Convoy Leader contacts the local police to inform them that they are in their area.

Each year the FFT QHSET Manager, FFT Convoy Leader and GCLA Senior Chemicals Inspector conduct a road trip and make contact with the local community police (who represent the local communities) and hospitals. Information obtained during these trips is used to update the Route Risk Assessments.

The transporter uses convoys, escorts and additional safety and security measures as appropriate should the selected routes present special safety or security concerns.

FFT personnel indicated that security is not usually a significant issue. They have carried out a number of convoys since the last recertification and no significant security issues have been experienced. They also notify the police in each region prior to starting each convoy and call the Regional Police Commissioner of each region as they enter it. However, cyanide is always transported in convoys.

Convoys are used as a means of managing the risks of the road conditions (traffic and people, poor roads, floods) and responding to emergencies. Each convoy is led by a support vehicle and fitted with signs and flags.

In addition to convoys, additional security measures are implemented including the use of locked and sealed containers, the use of angle plates, and GPS tracking.

FFT has advised medical facilities and communities (as represented by the local police) of their roles during an emergency response. Both Police and Government Hospitals have been provided with FFT’s Emergency Procedures and FFT has also discussed their activities during annual road trips with the relevant hospitals and police.

The QHSET Manager advised that there is no effective state emergency response facility in Tanzania, consequently FFT manages its own emergency response in preference to subscribing to any private emergency response service.

FFT subcontracts the transport of cyanide to MCL and GCL. Service Level Agreements signed by the Managing Director of FFT is in place between FFT and the individual subcontractors. These have been reviewed and are open contracts until terminated by either party. Included within the Service Level Agreements is the requirement for ICMC compliance.
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
☐ not in compliance with

Transport Practice 1.2

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.

The transport company only uses trained, qualified and licensed operators to operate its transport vehicles.

FFT does not own and operate transport trucks directly as this is contracted to MCL. FFT provides the Convoy Leader and the Emergency Response vehicle. FFT also manages the Mbagala interim storage facility and within this storage facility, FFT only uses a trained and competent operator to drive its Terex Reach-stacker.

There is no requirement in Tanzania for drivers to be licensed for dangerous goods transport. Nonetheless, FFT has a training scheme to ensure that all MCL drivers and FFT equipment operators are competent.

FFT personnel and subcontracted drivers are required to undertake the following training:

- Induction;
- Driver induction;
- Cyanide awareness;
- Cyanide convoys; and
- Cyanide first response.

GCL 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.

Drivers are provided with cards showing the date of their licence the training they have received and when the next training update is required. Prior to starting the convoy, these cards are checked by convoy leaders to ensure that the training is in date.

Freight Forwarders Tanzania Limited
Name of Facility
Signature of Lead Auditor
8 July 2018

ICMC RECERTIFICATION – SUMMARY REPORT
All FFT and MCL personnel operating cyanide handling and transport equipment have been trained to perform their jobs in a manner that minimises the potential for cyanide releases and exposures. This training is recorded on a training matrix. The training of cyanide handling and transport equipment operators is coordinated by FFT.

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

FFT subcontracts the transport of cyanide to MCL and GCL. Service Level Agreements signed by the Managing Director of FFT is in place between FFT and the individual subcontractors. These have been reviewed and are open contracts until terminated by either party. Included within the Service Level Agreements is the requirement for ICMC compliance.

**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
☐ not in compliance with

**Transport Practice 1.3**

**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.

FFT only uses equipment designed and maintained to operate within the parameters of the cyanide loads it will be handling. Cyanide manufacturers and suppliers limit the mass of cyanide containers sent to Tanzania to 23 tonnes. This is clearly shown on the chain of custody information provided within each shipment.

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. Step-deck trailers are now being used for the transportation of cyanide containers to reduce the likelihood of rollovers.

The containers are collected from the ICD and transferred to the FFT yard at Mbagala. Once there they are either left on the lorries if the convoy is to start the following morning or unloaded into the interim storage. The amount of time spent in interim storage is usually not longer then 2 weeks and usually much shorter.

The Tanzanian regulations allow a total gross weight of 53 tonnes per vehicle. Due to the weight of the vehicles used, including trailers, the maximum weight of load allowed is approximately 27
tonnes. The weight of the cyanide containers is approximately 23 tonnes with the weight of the shipping container being approximately 2.5 tonnes giving a total container weight of 25.5 tonnes.

MCL maintains records of vehicle specifications and maintenance history. The company has a detailed program of preventative maintenance and enough capacity to ensure that they always have enough vehicles on the road for the task.

During each convoy, the Convoy Leader checks that the trailers are only carrying cyanide and no additional loads. This is checked at the start of the convoy and at various times during each day. The loads are also checked at government weighbridges during the transportation and confirmed to be within the legal weight limits.

MCL carries out maintenance of vehicles (including tractor and trailer) on a regular basis. Records for each vehicle are retained by the maintenance. A minor service is undertaken every 10,000 km and a major service is undertaken every 30,000 km. FFT also undertakes maintenance on the Terex Reach Stacker in accordance with the manufacturers specifications.

MCL have the following procedure, SOP-011 DG Loading & Trucking, which was observed by the auditors. 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.

FFT subcontracts the transport of cyanide to MCL and GCL. Service Level Agreements signed by the Managing Director of FFT is in place between FFT and the individual subcontractors. These have been reviewed and are open contracts until terminated by either party. Included within the Service Level Agreements is the requirement for ICMC compliance.

**Transport Practice 1.4:** Develop and implement a safety program for the transport of cyanide.

- [x] in full compliance with

The operation is
- [ ] in substantial compliance with
- [ ] not in compliance with

**Transport Practice 1.4**

**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.

Only one container is allowed per trailer, which is stated in the training presentations observed by the auditors. FFT ensures seals are checked on all containers before being collected at the ICD and this has been recorded using a Dangerous Goods Container Checklist. As part of the checks the
seals are re-checked en-route three times a day by the drivers and the Convoy Leader and this is also recorded on the Checklist.

Placards and signage are used to identify the shipment as cyanide and as required by local regulations or international standards.

As all cyanide is delivered by sea to the Port of Dar es Salaam, 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.

These signs have to be displayed on all four sides of the container. The sign’s presence is inspected at the point of collection and during the journey.

The Dangerous Goods Transport Regulations in 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. A cyanide convoy leaving the Mbagala yard was observed during the site visit.

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.

h) Vehicle inspections prior to each departure/shipment.

a) Vehicle inspections prior to each departure/shipment.

FFT has a Haulage Truck Checklist check sheet that is completed before each trip and signed off by the Convoy Leader and the driver. The check sheet covers vehicle roadworthiness, dangerous goods requirements and emergency equipment. Records are maintained for each shipment.

Freight Forwarders Tanzania
Limited
Name of Facility
Signature of Lead Auditor
8 July 2018
Date
b) A preventive maintenance program.
FFT carries out maintenance of vehicles (including tractor and trailer) on a regular basis. Records for each vehicle are retained by the maintenance.

c) Limitations on operator or drivers’ hours.
Limitations on operator driver hours are managed by FFT using their GPS tracking systems. Convoys are managed by a convoy leader from FFT. They travel only in daylight hours between designated stopping points. These limitations ensure that drivers’ hours are not excessive, so fatigue is managed. In addition, the company has the following procedure SOP FFT 022 Fatigue Management Guide, 1 September 2016. The GPS tracking system generates a report that is attached to each Trip Report showing when they stopped and how long for.

d) Procedures to prevent loads from shifting.
Solid cyanide is stowed into the sea containers by Orica, Samsung or AGR. The cyanide is packed into UN approved shipping containers that are stowed to minimise movement in transport. The shipping containers are secured to vehicles using twistlocks, which are designed and constructed to international transport standards. These are also checked at the start and during each day of the convoy. This is documented in the Haulage Truck Checklists.

e) Procedures by which transportation can be modified or suspended if conditions such as severe weather or civil unrest are encountered
The convoy leader has authority to modify transport operations and consultation lines with his manager if needed. Discussion with FFT and the convoy leaders confirmed that this occurs although is rare and may be due to road conditions and weather conditions. If this occurs it is documented in the Convoy Reports.

f) A drug abuse prevention program.
FFT has a drug abuse prevention program that covers all common drugs likely to be encountered: opiates, amphetamines, alcohol and marijuana. FFT has a Drug and Alcohol Policy, 16 November 2017, FFT/QHSE/D&A PY/001-17 Rev 05. The procedure is implemented by drivers and Convoy Leaders all monitoring performance and behaviours for deviations. The procedure is communicated during induction training. Records of any incidents in contravention of the Procedure are kept on the personnel file for the individual.

g) Retention of records documenting that the above activities have been conducted.
Records are retained, maintained and inspected for all relevant parts of this element as indicated adjacent to each finding.

FFT has a Haulage Truck Checklist check sheet that is completed before each trip and signed off by the Convoy Leader and the driver. The check sheet covers vehicle roadworthiness, dangerous goods requirements and emergency equipment. Records are maintained for each shipment.
The transport company has procedures in place to ensure that its sub-contractors are in compliance with elements 1, 2 and 3 of this Transport Practice 1.4.

FFT subcontracts the transport of cyanide to MCL and GCL. Service Level Agreements signed by the Managing Director of FFT is in place between FFT and the individual subcontractors. These have been reviewed and are open contracts until terminated by either party. Included within the Service Level Agreements is the requirement for ICMC compliance.

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 ☐ not in compliance with

Transport Practice 1.5

Summarise the basis for this Finding/Deficiencies Identified:

The transporter does not ship cyanide by sea or air.

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

☑ in full compliance with

The operation is ☐ in substantial compliance with ☐ not in compliance with

Transport Practice 1.6

Summarise the basis for this Finding/Deficiencies Identified:

The operation is in full compliance with Transport Practice 1.6; track cyanide shipments to prevent losses during transport.

Vehicles transporting in the cyanide convoys have several means to communicate with FFT and MCL, with emergency responders and with the relevant mining operation.

All vehicles transporting cyanide are fitted with GPS and are tracked constantly by MCL. Alarms are fitted to the tracking system which are monitored constantly during the movement of cyanide convoys. Periodically the file downloads to allow the storage of data. The alarms register when; the drivers speed goes above a maximum level, there is a stop for a duration longer than expected, one of the vehicles moves outside the travel corridor, or for any reason the signal is lost.
Each driver within the convoy has a mobile phone and numbers are provided at the start of the convoy so drivers can get in touch with the Convoy Leader or vice versa.

Convoy leaders carry mobile phones to contact FFT, relevant transporters, local police, hospitals and the mine sites. The emergency telephone numbers are contained in FFT Cyanide Procedures Rev 15, 01 February 2018, which was observed by the auditors. This is carried by the Convoy Leader. If there is an incident the driver contacts the Convoy Leader and it is the Convoy Leader’s responsibility to contact the relevant organisation in addition to FFT.

The communication equipment is regularly tested to ensure that it functions correctly. FFT’s Haulage Truck Checklist includes confirming the GPS is working and that cell phones are present.

Trucks are logged on to the GPS in the relevant transport yard before departure. During the convoy process, GPS constantly tracks the convoy vehicle movements. Should a vehicle not respond for any reason this would be flagged immediately. The data on the GPS tracking system is refreshed every 2 minutes.

There are no blackout areas along the routes due to the near universal coverage of the cell phone network in Tanzania. Therefore, no special procedures have been implemented.

There are systems and procedures in place to enable 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.

In addition to the GPS tracking system, the Convoy Leader sends SMS messages to the relevant people in FFT when the cyanide convoy starts and stops along the route. The information transmitted is logged into a report that records the time of the message and serves as a supplementary record of the trip in addition to the GPS record.

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.

Shipping records indicate the amount of cyanide in transit and Materials Safety Data Sheets are available during transport.

The full suppliers MSDS for solid sodium cyanide is kept by the Convoy Leader and each Driver, 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 and is in Swahili.

The transport company has a procedure to ensure that its sub-contractors are in compliance with elements 1 thru 6 of this Transport Practice 1.6.

FFT subcontracts the transport of cyanide to MCL and GCL. Service Level Agreements signed by the Managing Director of FFT is in place between FFT and the individual subcontractors. These have been reviewed and are open contracts until terminated by either party. Included within the Service Level Agreements is the requirement for ICMC compliance.
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.

☐ in full compliance with
☐ in substantial compliance with
☐ not in compliance with

The operation is

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.

The Mbagala interim storage facility is located in a light industrial area with an access road along the western boundary and a railway along the northern boundary. The entrance is located on the western side. The entrance gate has the appropriate signage.

The interim storage area is a small part of the yard that is partitioned off. In the area where the cyanide is held an abbreviated sodium cyanide Material Safety Data Sheet (MSDS) in Swahili is pinned to posts at the four corners of the area, showing appropriate Personal Protective Equipment (PPE) requirements. The full MSDS is available in the office. Training is provided in the use of PPE. The shipping containers were clearly labelled as containing cyanide, remain sealed and in the open. In addition, adjacent to the interim storage area is an ISO container containing the emergency response equipment labelled “Sumu Hatri, Danger Toxic”.

Security measures are in place to prevent unauthorized access to cyanide. The Mbagala interim storage facility is surrounded by a four metre high block wall finished with glass shards and a five strand electric fence on the top. The steel entrance gates are also topped by the electric fence. In addition there is CCTV and a 24 hour a day, seven day a week contracted security company, Ultimate Security.

All shipping containers are sealed when they leave the ICD and remain sealed until they arrive at the mine, where they are opened and the contents confirmed.
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 Mbagala yard in freight containers more than 10 m from the bunded area used for the interim storage of cyanide shipping containers. Explosives are not stored within FFT’s storage facility.

Cyanide is stored so as to minimize the potential for solid cyanide to come into contact with water and with adequate ventilation to prevent the build-up of hydrogen cyanide gas. 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. When required, the cyanide shipping containers are stored on interlocking pavers over concrete hardstand in an open area. The interim storage area is bunded with drainage through the bund to allow drainage of rainfall. The drainage pipes contain valves so that the area can be isolated in the event of a spillage.

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 the interim storage facility. Systems are in place with the capacity to contain any spilled cyanide materials and minimise the extent of a release. The Cyanide Procedure Emergency Response Guide includes Emergency Response Guides to manage spills at an interim storage facility.
PRINCIPLE 3 – EMERGENCY RESPONSE

Ensure that Process Controls are Protective of the Environment

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

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

Transport Practice 3.1

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

The transporter has an Emergency Response Plan.

The Emergency Response Plan is an integral part of the FFT Cyanide Procedure, Rev 15, 01 February 2018. The document covers both MCL and FFT. This is the document to be used in the event of an emergency involving Sodium Cyanide.

The Cyanide Procedures document has been adapted by FFT 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 FFT to suit the conditions of East and Central Africa.

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 Plan is appropriate for the selected transportation route(s) or interim storage facility. The Plan includes descriptions of response actions as appropriate for anticipated emergency situations.

The FFT Cyanide Procedure, Rev 15, 01 February 2018 include the following:

- Basic Incident Flow Chart for Cyanide Convoys
- Basic Emergency Response Procedures
- Handling Response Guides

Freight Forwarders Tanzania Limited
Name of Facility

Signature of Lead Auditor

8 July 2018
In addition, there are route risk assessments for specific routes, which detail the risks associated with specific routes.

The Plan 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 plastic lined IBC standard wooden boxes. Depending 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 Handling 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”

The Plan considers all relevant aspects of the transport infrastructure. 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. Emergency numbers along with contact names for hospitals and police departments are listed in the Emergency Contact list within the Cyanide Procedures.

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 plastic lined 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 Plan identifies the roles of outside responders, medical facilities and communities in emergency response procedures, which include the following:

- Emergency services along the route (police and medical providers);
- Transporter representative;
- National Environmental Management Commission (NEMC);
- Government Chemist Laboratory Agency (GCLA);
- Clients (mining companies);

Freight Forwarders Tanzania
Limited

Name of Facility

Signature of Lead Auditor

8 July 2018

Date
• Tanzania International Container Terminal Systems (TICTS);
• Tanzanian Port Authority (where appropriate); and
• Supplier e.g. Orica.

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

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 ☐ not in compliance with Transport Practice 3.2

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. In addition, transport operators receive initial and periodic refresher training in emergency response procedures including implementation of the Cyanide Procedures.

The following people receive emergency response training and periodic refresher training:

• 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);
• Convoy Leader;
• ER Driver (driving the emergency response vehicle);
• CN Driver (driving the lead pickup truck);
• Tyre Manager;
• HSE Coordinator;
• Operations Supervisor; and
• Yard Emergency Responders x2.

Descriptions are provided of specific emergency response duties and responsibilities of personnel.
The Cyanide Procedures document identifies the key roles and responsibilities in the event of an emergency. The requirements are clear and unambiguous and are also covered in the training programmes. During interviews with emergency response drivers, convoy truck drivers and truck drivers they were asked about their roles and the answers were as per the basis of the procedures.

There is a list of all emergency response equipment that should be available during transport and along the transportation route. All emergency response equipment is taken in the Emergency Response vehicles as no other equipment is available en-route.

FFT currently maintains one Emergency Response Vehicle containing emergency response equipment and PPE. On every convoy an emergency response vehicle is taken along with a convoy leader vehicle in which the convoy leader and driver travel. The emergency response vehicle has a two hundred litre diesel tank for running the emergency generator. FFT has an Emergency Vehicle Response Checklist which lists all PPE and Emergency Response equipment. This is checked on a monthly basis. In addition to the emergency response vehicles all drivers are issued with a ‘Get Out Alive’ kit bag when the convoy assembles.

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

Weekly Safety Meetings are held by MCL for drivers. Each week a different topic is covered. Relevant safety briefing notes are discussed with the drivers at these meetings and some are translated into Swahili and posted on a notice board.

Procedures have been implemented for the inspection of emergency response equipment and to assure its availability when required. The emergency response equipment is inspected on a monthly basis, and the Emergency Response Equipment Checklist is used to ensure that the equipment is present in the vehicle. In the Cyanide Procedures the transportation procedures state that the convoy leader will ‘ensure that the emergency response kit is checked and any missing or outdated equipment replaced.

The transport company has clearly delineated the roles and responsibilities of its sub-contractor during an emergency response situation.

FFT subcontracts the transport of cyanide to MCL and GCL. Service Level Agreements signed by the Managing Director of FFT is in place between FFT and the individual subcontractors. These have been reviewed and are open contracts until terminated by either party. Included within the Service Level Agreements is the requirement for ICMC compliance.
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 ☐ 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.

FFT Cyanide Procedure, Rev 15, 01 February 2018 includes an Emergency Response Procedure Flow Chart and documents the responsibilities various roles including the Convoy Leader whose responsibility it is to contact the relevant parties in the event of an emergency.

Emergency contact numbers are included in the Cyanide Procedures for the following: GCL, Freight Forwarders Tanzania, Mainline Carriers, Freight Forwarders Kenya, Transeast, Orica, Samsung, various mines, GCLA, NEMC, TICTS, Police, and Hospitals.

The suppliers e.g. Orica provide an Emergency Response facility whereby they operate a 24 hour, 7 day a week emergency telephone line to provide assistance and advice.

The community do not have a designated role in the event of an emergency other than being represented by the police. The hospitals and police for all areas that the cyanide convoy will pass through are contacted prior to a convoy starting and again when the convoy enters their area.

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

A test of the numbers of the internal and external responders is undertaken annually as part of the Cyanide Awareness Campaign. The Cyanide Awareness Campaign includes visits to the police and hospitals along the route to ensure the contact information is correct.

The GCLA is contacted at least on a monthly basis and contact numbers are updated as required. Mines are contacted at least on a monthly basis. Suppliers 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.

☑ in full compliance with

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

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.

RG 7 Decontamination of a Spill of Solid Cyanide into Soil, under Section 9 Handling Response Guides of FFT Cyanide Procedure, Rev 15, 01 February 2018, 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 Secondary Response section of the Cyanide Procedures states that FFT in conjunction with regulatory authorities will undertake a monitoring program at an accident/incident site where cyanide is released into surface water.

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. RG 6 Dry Sodium Cyanide Spill to a Waterway under Section 9 Handling Response Guides of FFT Cyanide Procedure, Rev 15, 01 February 2018, states that FFT “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.”
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 ☐ not in compliance with Transport Practice 3.5

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 Plan’s adequacy they have been and will continue to be implemented.

The Document History section of FFT Cyanide Procedure, Rev 15, 01 February 2018 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. The revised document is to be circulated to parties identified on the distribution list.

The Cyanide Procedures is currently on revision 05.

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.

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.”

The six monthly emergency response simulation drills are informal with no documentation. It was confirmed through interview that these are carried out. A full scale incident scenario was undertaken on 8 August 2017 jointly between FFT and GCL.

Freight Forwarders Tanzania Limited
Name of Facility

Signature of Lead Auditor

8 July 2018 Date