## INTERNATIONAL CYANIDE MANAGEMENT INSTITUTE

## Transportation Summary Recertification Audit Report

Vehrad Transport & Haulage Tema, Ghana

19<sup>th</sup> – 21<sup>st</sup> April 2021

## For the International Cyanide Management Code



Name of Operation: Vehrad Transport & Haulage

Name of Operation Owner: Vehrad Transport & Haulage

Name of Operation Operator: Vehrad Transport & Haulage

Name of Responsible Manager: Mr Nazih Husseini,

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#### **Location detail and description of operation:**

Vehrad Transport and Haulage Ltd are contracted as a cyanide transporter for various ICMI certified manufacturers and suppliers to transport solid cyanide (briquettes) by road from Tema and Takoradi harbours to their depots and client mines in Ghana, Burkina Faso, Niger and Mali. Vehrad's main operations base is their Tema yard, located at Tema heavy industrial area plot16/17, approximately 2 kms from the Tema harbour, within the Greater Accra region.

Cyanide is received at the port of Tema by sea, in containers, each holding 20 one-ton boxes of solid briquette cyanide. The containers are offloaded at the ports by Meridian Port Services Stevedores (MPS) and stored at their facility. MPS is part of the ICMI audited supply chain of the cyanide producers and consignors bringing the cyanide in. For Cyanide Code transportation compliance purposes, Vehrad's Code responsibilities commence on the collection of the containers from MPS.

Containers are delivered from the Quay to the MPS Container Depot, where they are stacked and stored separately. Control and monitoring of the containers is undertaken by MPS, who subscribe to the IMDG Code. Vehrad's Cyanide Code responsibilities commence once the containers are placed on the transport vehicles in the MPS storage area.

Vehrad clears the consignment, and Vehrad's vehicles collect the containers with the documentation and manage them under a Transport Management Plan (jointly agreed between the supplier and the mine).

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In order to save on container demurrage and provide off-mine storage, all cyanide containers now received from cyanide producers and consignors are de-stuffed and stored in Customs-bonded warehouses solely containing cyanide boxes, whilst they await repackaging into sparge tanks, or re-stuffing into Vehrad containers, which are then transported to the mines by Vehrad Transport and Haulage. Each consignor's cyanide boxes are stored separately in the warehouses.

The containers of cyanide, either a sparged tank or repackaged container of boxes of cyanide briquettes, are then transported in escorted convoy to the mine sites. The convoys include an armed police escort whilst travelling through Ghana. Each truck has a driver, who is accompanied by a safety officer. The safety officer manages communications between the trucks, the escort vehicles and the convoy manager, and monitors the driver. The convoy includes a convoy manager, assistant convoy manager, a cyanide first aid-competent nurse (as appropriate to the size of the convoy), a mechanic, cyanide emergency response equipment for spills and releases, and medical equipment to treat cyanide exposures (splashes, skin exposures, inhalations and ingestions).



#### Auditor's Finding

This	operation	is
	NOTES AND ADDRESS OF THE PARTY	

X in full compliance

☐ in substantial compliance \*(see below)

□ not in compliance

with the International Cyanide Management Code.

This operation has not experienced compliance problems during the previous three year audit cycle.

Audit Company: Eagle Environmental

Audit Team Leader: Arend Hoogervorst

E-mail: arend@eagleenv.co.za

Name and Signature of Transportation Auditor:

Name Richard Durrant

Signature

15/9/2421

Date

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.

Date of audit: 19th - 21st April 2021

Signed

Arend Hoogervorst

My

16/9/2021

Lead Auditor

Date

Vehrad Transport & Haulage

Signature Lead Auditor

14th September 2021

### 1. TRANSPORT: Transport cyanide in a manner that minimizes the potential for accidents and releases.

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

#### X in full compliance

The operation is	$\square$ in substantial compliance	with Transport Practice 1.1
	□ not in compliance with	

Summarize the basis for this Finding/Deficiencies Identified:

Vehrad Transport and Haulage Company (VTHC) procedures require that route risk assessments (RRAs) are drawn up, reviewed every two years, and a full revision be done every five years. RRAs sighted included approved routes for clients' destinations in Ghana, Burkina Faso, Guinea, Ivory Coast, Mali, and Niger. Approved routes are also listed in the VTHC Driver Handbook. The Ghana EPA (Environmental Protection Agency) approved selected routes in Ghana based upon the broader ability to provide emergency response support. Although there is a procedure for road hazard mapping and route selection, there are frequently limited alternative routes owing to topography, poor road infrastructure or opposition from communities or stakeholders. Feedback on routes is received from convoy leaders. This is relayed to the Vehrad office through WhatsApp and phone calls. WhatsApp updates received on convoy progress occurs at least every 2 hours. In addition, the formal Journey Plan contains feedback (additions or changes) from convoy participants for significant issues experienced on the route which were not covered in the route risk assessment.

A review of the RRAs showed that they contain population densities and concentrations, problematic infrastructure, road pitch and grade (climbing hills turnings and curves), and water courses, bodies and fog. The Transport Auditor accompanied a convoy to Akyem mine for part of the route (152.6 km) and noted that the RRA contained 32 references to no-maintenance of roads, and the presence of 13 bridges, 8 water bodies, 26 references to water, 5 black spots, and 11 areas of human activity. He also noted that notes were included on mitigating driving measures to minimise the route risks.

VTHC uses flyers and small-scale presentations to raise awareness. Convoy Leaders also hand out small promotional gifts, such as colouring crayons, pens, T-shirts, cooler bags, and peaked caps at rest stops to start a dialogue and warn adults and children about the risks associated with the convoy.

During the Convoy to Akyem, the convoy travelled with an armed police officer as support. In addition, police checkpoints are passed without stopping through the presence of the escorting police officer. All cyanide deliveries are conducted using a convoy system with an armed police escort for the Ghana component of the trip, and include support vehicles containing spill kits, medical oxygen, first aid kit, cyanide antidote kit (hydroxocobalamin), cyanide gas monitor, ferrous sulphate, mechanic and safety officers.



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VTHC has engaged with the Ghana Red Cross, and in an interview with their National First Aid Instructor and Emergency Resource Coordinator, it was confirmed that the Red Cross was committed to assist with medical response for personal evacuation, first aid and application of cyanide antidote (hydroxocobalamin) with effect from 15 January 2018.

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.

#### X in full compliance with

The operation is	$\ \square$ in substantial compliance	with Transport Practice 1.2
	$\square$ not in compliance with	

Summarize the basis for this Finding/Deficiencies Identified:

VTHC prepares a "driver's passport", which includes all the training requirements for the transporting of cyanide and proof of training. "Driver passports" are kept by the Convoy Leader and are made available to the Mine Safety Manager as proof of cyanide training. The procedure for Road Transport Operations, includes requirements such as: must be aged 32 years of age or older. Drivers are required to possess a valid professional driving licence, code "F", and they should be able to read and write and undergo a literacy test. Furthermore, an essential requirement of road sign comprehension is required. Finally, a police report is required to prove that the new driver applicant does not have a record of offences. Two examples were sighted to illustrate the Police Criminal Check report.

The Training Matrix, Procedure for Staff General Administration Process, and the current Training Plan were sighted. Training Plans for 2018, 2019 and 2021 were also reviewed. Windex Defensive Driving Heavy Goods Vehicle Training was presented on 16/3/2021, 23/3/2021, 29/3/2021 and 8/4/2021. 46 VTHC drivers in total attended the training course, of which 12 were cyanide drivers. Windex is a registered training authority with the Ghana Driver and Vehicle Licensing Authority (DVLA). The principal is a DVLA Driver instructor and certified by Shell for competence in the Shell 16 Modules for driving chemical transporters. Truck drivers receive cyanide hazard training, and any cyanide incidents that occur on the journey are handled by the accompanying convoy emergency team, who have specialist training, according to the training matrix. In addition, the convoy carries all the necessary cyanide emergency equipment (cyanide releases and medical) with them.

Cyanide containers arrive at the Tema site from the port and are de-stuffed in the cyanide yard. Cyanide boxes are stored in the bonded warehouse and reloaded in containers when required by the mines. Forklift and Stacker operators "stuff" and "de-stuff" the containers. Forklift and stacker operators are trained in their equipment operation and cyanide awareness.



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Transport Practice 1.3: Ensure that transport equipment is suitable for the cyanide shipment.

	<b>F</b>	
	X in full compliance with	
The operation is	☐ in substantial compliance	with Transport Practice 1.3
	$\Box$ not in compliance with	

Summarize the basis for this Finding/Deficiencies Identified:

The weight of cyanide briquettes in a 20-foot container is 20 tons. Two containers are carried on each trailer. The weight of the container is 2.3 tons, and the weight of the trailer is 6 tons. The weight of the tractor is 8.3 tons. Thus, the total weight of the trailer and load is 58.9 tons. The truck and trailer is a seven axle vehicle (three axles on the tractor and four on the trailer), meaning that the weight on each axle is 8.41 tons per axle. The Ghanaian legal maximum axle weight is 10 tons, meaning that the loading of axles is well within the legal maximum. Vehrad has 21 cyanide-specific truck and trailer combinations, all of which meet the above-mentioned specifications. Vehrad has two, 45-ton capacity, Reach Stackers for moving containers in the yard. There is a planned maintenance programme in place for the trucks, trailers and lifting equipment.

Maintenance carried out on site is based upon kilometres travelled. This is 15,000 kms for the Mercedes Benz trucks and 10,000 kms for the Sinotruk trucks. Trucks under warranty are serviced by the manufacturer's agents in Ghana. Specific truck and trailer maintenance records were sampled and checked. The Akyem trip Sino truck and trailer records for GN 2254-20 truck and trailer VF-07 showed they were serviced on 23-02-2021 at 16,210.5 kms and on 01-10-2020 at 6,593.2kms. Tyre surveys were conducted at 18,394.8kms and 12,761.6kms, and at 1,364.6kms. Also checked was Sino truck GT 6177-19 and trailer VT-3937, which were serviced at 42,874kms, 33,254kms, 24,115kms,13,469kms and 500kms. Mercedes Benz truck GT 9234-18 and trailer VF-15 were last serviced at 108,480kms on 05-03-21 and at required intervals, prior to this date and kilometres. Convoy escort vehicle maintenance records are also in place. Convoy vehicle with registration number GH 5464-20 has travelled a total of 3,734 kms since new and Light Duty Daily Inspection Checklists for 16/04/2021 and 17/04/2021 were verified. No work is sub-contracted out.

VTHC monitors distance travelled on an Excel spreadsheet-based program to ensure that trucks are "caught" for maintenance in advance of the service limits. Trailers are also inspected on a quarterly basis. Tyre maintenance records were also checked and verified. Tyres on cyanide vehicles and trailers are replaced when they reach 4mm tread depth or show signs of damage, and regular tyre survey records are in place. Only new tyres are used on cyanide vehicles, and no recap tyres are used. Cyanide vehicles are replaced after between 8 and 10 years of use.

The trailers are consistently operated at load levels below their legal and design maximums. The truck capacity for China National Heavy Duty Truck Group Co Ltd vehicle Chassis Number LZZ5CLSB9LN526230 is, front steering axle 9.0 tons, and the rear-drive axles are 2 X 16 tons with a gross vehicle axle capacity of 41.0 tons and a Gross Vehicle Weight (GVW) of 25.0 tons. Sighted trailer load specifications of the

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WAFA Vehicle Company for four-axle skeletal semi-trailer VIN Number LA996RBC6L0YXY563. The design load maximum capacity of the trailers is 80 tons, as per the manufacturer's plate. Tare weight - 8.55 tons, Gross Weight - 88.55 Nett Weight / Payload - 80 tons. To illustrate: -

- Manufacturers carrying capacity / payload = 96 tons
- Permissible carrying capacity / payload = 70 tons (7 axles @ 10 tons per axle)
- Mass of two loaded of cyanide containers = 44.6 tons

Therefore, the actual mass of loaded cyanide containers transported is well below the permissible and the manufacturer's specifications.

The cyanide is delivered in standard 6m sea containers, which are fitted on custom trailer designs. It is not possible to overload the trailers because the containers are loaded by the producer with a set number of boxes (20) with a set weight (1 ton). The sparge isotainers are loaded with 18 x 1-ton boxes of cyanide briquettes. The boxes are prepared in advance of the sparging process and counted into the sparge hopper.

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

#### X in full compliance with

The operation is	$\square$ in substantial compliance	with Transport Practice 1.4
	$\square$ not in compliance with	

Summarize the basis for this Finding/Deficiencies Identified:

The producer's packaging consists of woven polypropylene sacks of cyanide briquettes in plastic-lined, sealed wooden boxes, packed into 6 m sea containers and security sealed. The sea containers are delivered from the port and are de-stuffed in the VTHC cyanide

The sea containers are delivered from the port and are de-stuffed in the VTHC cyanide yard, and the boxes are inspected before being stored in the bonded warehouse. If the boxes are damaged, in the case of Samsung, the contract requires that the boxes will be stored appropriately (described in sections 4.6 and 4.7 of the Samsung contract). Furthermore, if cyanide is spilled, VTHC will activate their emergency response plan to manage the spilled cyanide. This is included in the procedure, Management of Cyanide Warehouse Storage, which includes offloading containers, destuffing containers, storage procedure, stuffing and loading, and includes reference to handling only one box at a time.

In the Procedure for Cyanide Handing and Convoy Movement, the placarding requirement is that containers transporting solid sodium cyanide must be marked with placarding in accordance with the IMDG (International Maritime Dangerous Goods) Code. The Transport Management Plan (TMP) also includes the same requirement.

The Truck pre-trip list includes driver licensing, insurance, road worthiness of the vehicle, seat belts, chocks for securing vehicle, signs, lights, horn, loading capacity, and vehicle safety measures/equipment. In addition, the inspection includes antidote kits, Personal Protective Equipment (PPE), oxygen, HCN gas detector, radios and cell phone, and cordoning off equipment for the Trip Safety Equipment. In addition, the escort



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vehicle inspections are covered under the Light Duty Daily Inspection Checklist. This was verified by the Transport Auditor during the Akyem convoy.

There is a planned maintenance programme in place for the trucks, trailers and lifting equipment. Maintenance carried out on site is based upon kilometres travelled. This is 15,000 kms for the Mercedes Benz trucks and 10,000 kms for the Sinotruk trucks. Trucks under warranty are serviced by the manufacturer's agents in Ghana. Specific truck and trailer maintenance records were sampled and checked. (Akyem truck and trailer records.) During the convoy journey at the planned rest stops, the accompanying mechanic carries out a documented, in-journey vehicle and trailer load safety inspection. Vehrad monitors distance travelled on an Excel spreadsheet-based program to ensure that trucks are "caught" for maintenance in advance of the service limits. Tyre maintenance records were also checked and verified. Tyres on cyanide vehicles and trailers are replaced when they reach 4mm tread depth or show signs of damage. Only new tyres are used on cyanide vehicles, and no recap tyres are used. Cyanide vehicles are replaced at between 8 and 10 years of use.

The Driver Fatigue Management procedure specifies the maximum hours of duty during any 24 hour period (12 hours). It stipulates not more than an aggregated period of 8 hours in any 24 hours or 500kms, whichever comes first in adverse security situations and with the approval of Management. There is a maximum period of continuous driving (4 hours) with a break of 30 minutes. Also included are maximum weekly on-duty hours (72 hours), and maximum weekly driving hours (56 hours). The transport auditor checked daily driving timings and rest breaks during convoy travel.

The Procedure for Cyanide Handling and Convoy Movement, 9. Rules for Convoy Movement, it is stated that, "...In case of bad weather or unsafe conditions, and unsafe acts, the convoy manager should find a good, hard standing, and safe parking place, park and inform base controller, and wait for instruction." Similarly, the VTHC Driver Handbook states, "... in case of bad weather or unsafe conditions and unsafe acts, the convoy must park at a safe place." The Vehrad Transport Emergency Plan, Section 4.7.6 Other Threats, Hijacks, Bomb Threats, Civil Disturbance and Natural Disturbance, includes specific instructions for the convoy manager and the drivers.

The Alcohol and Illegal Drugs procedure includes a policy of no alcohol or illegal drugs permitted on the premises or in the company's vehicles. In addition, there is a counselling and guidance programme for drug and alcohol dependence in appropriate circumstances. The procedure also covers random testing, post-accident testing, reasonable cause testing, and pre-dispatch testing.

Records were confirmed for vehicle maintenance histories and checklists, driving hours and drug and alcohol testing.

Transport Practice 1.5: Follow international standards for transportation of cyanide by sea and air.

	☐ in full compliance with	1	
The operation is	☐ in substantial compliant	nce	with Transport Practice 1.5
	□ not in compliance with	ı	
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#### X Not applicable

Summarize the basis for this Finding/Deficiencies Identified:
This section is not applicable, as VTHC is not involved in managing air or sea shipments.

Transport Practice 1.6: Track cyanide shipments to prevent losses during transport.

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Summarize the basis for this Finding/Deficiencies Identified:

The Procedure for cyanide handling and convoy movement, Section 6 – Convoy Communication Procedure, dictates communication etiquette. Communication with vehicles in the cyanide convoy is undertaken using mobile phones and two-way radios. The drivers do not use the communications equipment. The accompanying safety officer in each truck communicates with the convoy manager and support vehicles. Convoy managers have all the appropriate telephone numbers to communicate with Vehrad head office. Vehrad Head Office will contact the appropriate emergency responders and emergency services on the convoy route. The Vehrad head office manages all associated communications with the mine and the cyanide producer.

It is a requirement in the procedure for cyanide handling and convoy movement in Section 5 – Convoy Preparation, that two-way radios and cell phones are tested prior to departure of the convoy and in the pre-trip checks. This was confirmed by the transport auditor. The GSM Positioning system (cell phone technology is used instead of satellites) is functioning continuously, and is monitored by the Vehrad Road Transport Department and various Vehrad staff members on their cellphones. The system can be programmed to automatically send reports on the positioning of vehicles, and over-speeding. There is also a panic button on the system, which can be activated by the driver. The service provider has very rarely had its system go down, and thereafter, recovery was quick. The Procedure for Road Transport GPS Tracking, manages the tracking system and includes the requirement to download journey history at the end of the delivery. This is used to monitor routes against the Journey Plan and check for violations, such as over-speeding or varying from the route plan. In Ghana and surrounding and neighbouring countries, there are no blackout areas on the routes. All main routes are covered by the primary cell phone service providers. There are no tunnels on the routes in Ghana. If there is a temporary loss of signal, data covering the period can be recovered when the signal returns.

Vehrad transports and delivers sealed containers and sealed sparge isotainers. A waybill accompanies the convoy, which includes chain of custody data such as container numbers, waybill numbers, shipping documentation, packing list, Bill of Lading, customs declarations, and producer invoice. Checks are carried out at customs posts and borders and at the mine site. Convoy stops have checklists that include the inspection of container

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seals. This was confirmed by field checks by the transport auditor on the convoy that he accompanied. Shipping records form part of the Transport Management Plan (TMP) or the Bill of Lading, and data is included in the waybill documentation pack, which also includes the TREM (**Tr**ansport **Em**ergency) card and the SDS (Safety Data Sheet).

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.

# X in full compliance with The operation is □ in substantial compliance with Transport Practice 2.1 □ not in compliance with X Not applicable

Summarize the basis for this Finding/Deficiencies Identified:

Bonded warehouses are used to store cyanide boxes that are unpacked from sea containers. Cyanide containers for different mines are stored on behalf of consignors. This storage is not deemed "interim storage" (It is not storage between a change of transport modes and of a period of 24 hours or less.) and does not form part of the scope of this audit. However, it is covered in a separate ICMI Production Facility audit.

## 3. EMERGENCY RESPONSE: Protect communities and the environment through the development of emergency response strategies and capabilities

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

## The operation is $\Box$ in substantial compliance with $\Box$ not in compliance with

Summarize the basis for this Finding/Deficiencies Identified:

VTHC has a Vehrad Transport Emergency Response Plan in place. The Plan covers different scenarios (truck breakdown, truck accident (no spill), truck accident (spill), truck accident(fire), driver injury, robbery, hijack, bomb threat, civil disturbance and

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natural disaster, product crossover, medical emergency, and emergency at Vehrad transport workshop(depot)), and different routes in Ghana, Mali, Ivory Coast, and Burkina Faso. As all cyanide deliveries are made in convoy, the accompanying Emergency Response Team will implement the Emergency Response Plan. Responses in the Plan are based upon the identified scenarios. The Plan includes Emergency Actions (Safety Response Crew, Emergency Communication System and Isolation Distance), Emergency Equipment and Logistics, Emergency Medical Services, Security, and Reporting incidents. Also included is: Follow up Action in the event of a Serious Incident. The majority of scenarios will be responded to by the convoy's own dedicated emergency response team. After consultation with the incident controller, any additional outside assistance would be requested or coordinated through the Vehrad Base Controller (Convoy Manager/HSSE Manager). The Ghana Red Cross is committed to assist with medical response for personal evacuation, first aid and application of cyanide antidote (hydroxocobalamin) with effect from 15 January 2018.

The Plan deals with the physical and chemical form of all the hazardous chemicals transported by Vehrad, including Sodium Cyanide. Vehrad only undertakes road transport, and all risk assessments cover road transport. Route risk assessments are reviewed every two years and fully revised every five years. VTHC only uses custom-designed flatbed and skeletal trailers to transport containers containing boxes of cyanide briquettes. It also only uses custom-designed stainless-steel sparging isotainers.

Transport Practice 3.2: Designate appropriate response personnel and commit necessary resources for emergency response.

#### X in full compliance with

The operation is	$\square$ in substantial compliance	with Transport Practice 3.2
	$\square$ not in compliance with	

Summarize the basis for this Finding/Deficiencies Identified:

The procedure for Training and Drills includes emergency response training. The "Driver Passports" indicate if Emergency Response Training has been completed and the convoy team members are trained in emergency response. The Transport auditor checked the Driver Passports on the Akyem convoy and confirmed training. In addition, training records for 2018, 2019 and 2021 were sighted.

The Emergency Response Plan, Section 4.5 Manual of Authority for Transport Emergency Response, includes duties and responsibilities for: - the Managing Director, Operations Director, Administration Manager, Assistant Operations Director, Road Transport Manager, Workshop Manager, Drivers, HSSE Manager, First Aiders, and Safety Officers. Included in the Plan under section 4.2.4, Emergency Response Equipment On Board, is a listing of emergency equipment available. Also sighted was the document, Vehrad main yard inventory of emergency equipment available, including the emergency response trailer. The equipment is checked monthly. No equipment is stored en route. All necessary cyanide emergency equipment is carried with the convoys in the convoy escort vehicles. Sampled convoy checklists indicating emergency

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equipment carried in 2018, 2019 and 2021. (2020 was affected by the Covid-19 Pandemic.)

All members of the convoy team (escort vehicle and drivers and safety officers) are trained in the Emergency Response Plan and receive regular refresher training, including occasional mock drills. An Emergency Response Plan Training Attendance List, dated 20 February 2018, covering 39 drivers, was sighted. Also sighted was a PowerPoint presentation used in training the Emergency Response Plan.

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

#### X in full compliance with

The operation is	$\square$ in substantial compliance	with Transport Practice 3.3
	$\square$ not in compliance with	

Summarize the basis for this Finding/Deficiencies Identified:

Emergency response information is included in the vehicle TREM (Transport Emergency) card. After consultation with the incident controller, any additional outside assistance would be requested or coordinated through the Vehrad Base Controller (Convoy Manager/HSSE Manager). The Emergency Contact List is included in the TMPs and the Driver Handbook. The Emergency Response Plan, which includes contacts, is included in the TMP.

Details are updated annually by the HSSE Manager when the Emergency Response Plan is updated. Updates also occur when the TMPs are updated.

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

#### X in full compliance with

The operation is	$\square$ in substantial compliance	with Transport Practice 3.4
	□ not in compliance with	

Summarize the basis for this Finding/Deficiencies Identified:

With respect to remediation, the Emergency Response Plan contains the following: -

3.1.12 Clean up

This section includes a summary of the precautions to be taken when cleaning up a spill, as well as Ventilation, Personal Protective Equipment (PPE), spills and disposal, and fire and explosion hazards.

3.1.13 Containment

This section contains instructions on the containment of both solid and liquid cyanide.

3.1.14 Recovery of Spills



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This contains specific guidelines on the recovery of solids, reclamation of solid sodium cyanide, and transport of contaminated materials.

3.1.15 Treatment Neutralisation of Spills

This section contains detailed descriptions of different methods of neutralisation, including a discussion on the main treatment chemicals such as ferrous sulphate, and sodium hypochlorite. Under the section, neutralisation scenarios, there are discussions on neutralisation or the removal of soil; treatment and/or disposal of excavated soil, stabilisation and removal of soil, neutralisation of top-soil in situ, and neutralisation of removed, contaminated liquid.

There are separate sections, 3.2 on the use and management of Hydrogen Peroxide, and 3.3 Sodium Hydroxide, which contain detailed information and precautions on the chemicals and their handling.

The Plan includes the relevant prohibition to prevent treatment chemicals from entering standing water of streams to protect aquatic life in Section 3.1.12 – Clean-up, sub-section a) Summary; and Section 4.4 - Transport General ER procedure.

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

#### X in full compliance with

The operation is	$\square$ in substantial compliance	with Transport Practice 3.5
	$\square$ not in compliance with	

Summarize the basis for this Finding/Deficiencies Identified:

The Plan is reviewed annually or after the Plan is activated, or after an accident, or if legal requirements change. The Plan may also be reviewed after drills.

A report on an exercise in administering oxygen with the goal of testing time taken to administer was sighted. The exercise was done in 2017 and repeated in 2019. Although the timing was not as good in 2019, an improvement in confidence with equipment was noted. Unfortunately, further follow up from this exercise was interrupted by the Covid-9 Lockdown.

The Procedure on Procedures indicates that the revision of procedures (including the Emergency Response Plan) can occur during the annual document review process, after a major accident, change, or alteration of any routine operation, post-audit, or from legislative changes.

There have been no recorded cases since the last audit.

