

INTERNATIONAL CYANIDE MANAGEMENT INSTITUTE

Transportation Summary Recertification Audit Report

***Vehrad Transport & Haulage
Tema, Ghana***

14th – 17th August 2017

***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
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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, which each hold 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 the purposes of Cyanide Code transportation compliance, Vehrad's Code responsibilities commence on 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 they take the containers from 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).



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 a Customs-bonded warehouse 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 warehouse.

The containers of cyanide, either a sparged tank or re-packaged container of boxes of cyanide briquettes, are then transported in escorted convoy to the mine sites. 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, a mechanic, cyanide emergency response equipment for spills and releases and medical equipment to treat cyanide exposures (splashes, skin exposures, inhalations and ingestions). The convoys include an armed police escort whilst travelling through West Africa.

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



Auditor's Finding

This operation is

- 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 Dale Haigh

Signature



Date 2 January 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.

Date of audit: 14th -17th August 2017

Signed



Arend Hoogervorst

Lead Auditor

Date

2/01/2017

Vehrad Transport & Haulage

Signature  Lead Auditor

28th December 2017

not in compliance with

Summarize the basis for this Finding/Deficiencies Identified:

Vehrad prepares a "driver's passport" which includes all the requirements of training 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. Drivers have to have at least three years driving experience in straight chassis vehicles and three years of experience with trailer trucks. Drivers are required to possess a legitimate professional driving licence, code "F", and hold at least a Middle School Leaving Certificate or Junior Secondary School Certificate and they should be able to read and write. A police report is also required to prove that the new driver applicant does not have a record of offences. Furthermore, a basic requirement in road sign comprehension is required. Drivers are all required to undergo a Defensive Driver training program provided by a registered training body using the Shell 16 Module Training program. All 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. Forklift and Stacker operators stuff and de-stuff the containers and are trained in their equipment operation and cyanide awareness. The convoy carries all the necessary cyanide emergency equipment (cyanide releases and medical) with them.

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

X in full compliance with

The operation is in substantial compliance with Transport Practice 1.3

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 maximums. The cyanide is delivered in standard 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 with a set weight. Vehrad has 26 cyanide specific trailers, 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 tractors, trailers and lifting equipment. Brake testing and other inspections are undertaken by a third party specialist

at their premises. Maintenance carried out on site is monthly maintenance. Trucks are serviced by the manufacturers' agents in Ghana. The on-board computer on the truck dictates the maintenance frequencies, form and type of service required. Specific truck and trailer maintenance records were sampled and checked on site and at the manufacturers' agents' workshops.

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

X in full compliance with

The operation is in substantial compliance **with Transport Practice 1.4**
 not in compliance with

Summarize the basis for this Finding/Deficiencies Identified:

The producer's packaging consists of plastic lined, wooden boxes packed into 20 foot containers and sealed.

The containers are de-stuffed in the 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 (sections 4.6 and 4.7) . If cyanide is spilled, Vehrad will activate their emergency response plan to manage the spilled cyanide. In the case of AGR cyanide, the local representative must be called and he will dictate the actions that he deems are required.

Ghana transport regulations require marking and placarding according to the Hazardous Materials Transportation Manual and The TMP also contains placarding requirements as per the International Maritime Dangerous Goods (IMDG) Code requirements. In addition, the last truck in the convoy has, at the back, a large, voluntary sign which states "Dangerous Convoy - Sodium Cyanide" in English and French.

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

The Vehicle Operators Handbook specifies the maximum hours of duty during any 24 hour period (12 hours); maximum driving hours on duty in any 24 hour period (9 hours extendable to 10 hours up to twice per week); maximum period of continuous driving (4 hours); minimum daily breaks from driving during a period of 12 hours on duty is 45 minutes (split into two 30 minute breaks). Maximum weekly on duty hours (72 hours), maximum weekly driving hours (50), working week to be a maximum of 6 consecutive days to be followed by a minimum weekly rest of at least 36 hours. The transport auditor checked daily driving timings and rest breaks during convoy travel. Working, driving, and rest arrangements for journeys that are longer than 6 days are included in the Procedure for Cyanide Handling and Convoy Movement. This procedure also covers bad weather and coups.



The Vehicle Operators Handbook includes a section on drug and alcohol policy. The policy includes specific statements on drug and alcohol usage, testing, alcohol and drug dependence, use of drugs and alcohol on the company premises or whilst driving and the consequences of positive test results. The policy also covers random testing and searches. The policy and company recognises alcohol and drug dependence as a treatable condition and will provide appropriate support and assistance within the bounds of the policy.

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

X Not applicable

Summarize the basis for this Finding/Deficiencies Identified:
This section is not applicable as no modes of air or sea transport are used.

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

X in full compliance with

The operation is in substantial compliance **with Transport Practice 1.6**

not in compliance with

Summarize the basis for this Finding/Deficiencies Identified:
Communication with vehicles in the cyanide convoy is undertaken using mobile phones and short-wave radios. All communication equipment is tested prior to convoy departure. The drivers do not use the communications equipment. The accompanying safety officer in each truck communicates with the convoy leader and support vehicles. Convoy managers have all the appropriate telephone numbers to communicate with Vehrad head office and 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. In Ghana and Burkina Faso (current transport areas), there are no blackout areas on the routes. All main routes are covered by the main cell phone service providers. There are no tunnels on the routes in Ghana. Vehicles are tracked using both cell phone-based tracking systems and GPS satellite tracking systems. Convoys report periodically to Vehrad head office. Convoys report in from various rest stops. Police and Customs also report on convoys passage through checkpoints. The Transport auditor interviewed the Managing Director's secretary who

tracks convoys and submits email and SMS reports to the mines. Vehrad transports and delivers sealed containers. 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 which include the inspection of container seals. This was confirmed by field checks by the transport auditor on the convoy that he accompanied.

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:

In terms of Cyanide Code definitions, Vehrad does not have interim storage for its transportation certification. However, a bonded warehouse is used to store cyanide boxes which are unpacked from 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. 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.

X in full compliance with

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

Summarize the basis for this Finding/Deficiencies Identified:

The Emergency Response Plan (ERP) covers different scenarios and different routes in Ghana and Burkina Faso. As all cyanide deliveries are made in convoy, the accompanying Emergency Response Team will implement the ERP, as required. The ERP deals with emergencies involving solid cyanide briquettes (currently the only form of cyanide that is transported), or if they are spilled into water. Vehrad only undertakes road transport and all risk assessments cover road transport. Route risk assessments are fully reviewed every five years. The Plan includes a series of likely scenarios (Truck breakdown; truck accident-no spill; truck accident-spill; truck driver injury; security risk-armed robbery; and truck accident, communications failure and product diversion). Responses in the Plan are based upon the identified scenarios. The majority of scenarios will be responded to by the convoy's own dedicated emergency response team. Any outside additional assistance would be requested or coordinated through the Ghana EPA, with whom Vehrad has regular and on-going contact and communication.

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

X in full compliance with

The operation is in substantial compliance **with Transport Practice 3.2**
 not in compliance with

Summarize the basis for this Finding/Deficiencies Identified:

The Vehrad Competency Framework indicates the training and competency needs of all jobs and includes emergency response. A Driver Passport indicates if Emergency Response Training has been completed. The Convoy escort vehicles carry all the necessary emergency response equipment that may be required for cyanide emergencies during the convoy routing. Vehrad also has an emergency response trailer available for deployment, as required. Checklists are available and used. Convoy equipment is checked and tested before the convoy moves. Vehrad yard equipment is tested and checked monthly. No equipment is stored en route as all necessary equipment is carried with the convoys. 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. Pre-trip briefing includes a refresher of emergency procedures. The transport auditor interviewed drivers and members of the convoy emergency response team and verified up-to-date training via the training passports.

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

X in full compliance with

The operation is in substantial compliance **with Transport Practice 3.3**

not in compliance with

Summarize the basis for this Finding/Deficiencies Identified:

The convoy manager communicates with the Vehrad base controller who regulates communications to interested and affected parties and other bodies that need to be communicated with. Contact information is also included in the vehicle TREM (**T**ransport **E**mergency) card. The communication tree is contained in the Vehrad procedure contact list and organogram. Information is checked and updated annually.

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 in substantial compliance **with Transport Practice 3.4**
 not in compliance with

Summarize the basis for this Finding/Deficiencies Identified:

Remediation actions are covered in the Transport Management Plans (TMPs) and include:- containment; recovery and treatment of spills; recovery of solids; neutralisation or removal of soils; treatment and or disposal of soils; reclamation of Sodium Cyanide; transport of contaminated materials; and water resource treatment. There is also a section in the TMP which specifically prohibits the use of water treatment chemicals in flowing waters.

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

X in full compliance with

The operation is in substantial compliance **with Transport Practice 3.5**
 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. Mock drills are undertaken to test response and effectiveness and these are formally evaluated and documented. Revisions or recommendations are implemented as appropriate. For example, the Plan was revised after a road accident on 17th October 2016. An additional requirement was included covering reporting of accidents or incidents by vehicles behind the occurrence.

