

INTERNATIONAL CYANIDE MANAGEMENT INSTITUTE

Transportation Summary Recertification Audit Report

**Vehrad Transport & Haulage
Tema, Ghana**

12th – 17th March 2011

***For the
International Cyanide Management Code***



Signature Lead Auditor

16th May 2011

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. Ghassan Hussein,
Deputy Managing Director

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Location detail and description of operation:

Vehrad Transport and Haulage Ltd are contracted as a cyanide transporter for AGR, Samsung and Barbex 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 in the Tema heavy industrial area, approximately 2 kms from the Tema harbour, within the greater Accra region.

Cyanide is received at the ports of Tema and Takoradi 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).


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The containers of cyanide, in all cases, 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 Ghana.

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



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Auditor's Finding

This operation is

- 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

Names and Signature of Transportation Auditor:

Name Lynton Brown

Signature 

Date 17th May 2011

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: 12th -17th March 2011

Signed



Arend Hoogervorst

Lead Auditor

19/5/2011

Date



Signature Lead Auditor

16th May 2011

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 in substantial compliance with Transport Practice 1.1

not in compliance with

Summarize the basis for this Finding/Deficiencies Identified:

Vehrad has in place road mapping and updates procedures which include detailed route breakdowns with identification of hazards such as slippery roads, bridges, population densities, police barriers, road construction, cyclists, traffic congestion, heavy rain, water bodies, dust and fog, cattle crossing, and children. Routes selected are approved by the Ghana Environmental Protection Agency(EPA), based upon the wider ability to provide emergency response support. Feedback on route conditions is received from drivers and convoy managers. Route risk assessments currently reviewed by virtue of need or accumulated feedback from convoy managers. The Ghana EPA is consulted on routes especially considering the emergency responses support issues. Consultations in other countries via the mines, as well as direct discussions. Not all communities are directly consulted but, where relevant, communities are involved through discussions and meetings. All cyanide deliveries are conducted using a convoy system with an armed police escort for the Ghana component of the trip and including support vehicles containing spill kits, medical staff, mechanic and safety officers (i.e. a complete emergency response team). Communities and stakeholders are consulted through the use of seminars and discussions. Following a road accident on 1 February 2009 in which no cyanide was spilled or released, the area was declared a black spot on the route risk assessment.

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 in substantial compliance with Transport Practice 1.2

not in compliance with

Summarize the basis for this Finding/Deficiencies Identified:

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 also be able to read and write. Furthermore, a basic requirement in road sign comprehension is required. Drivers are also required to undergo a formal, registered, Defensive Driver 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. The convoy carries all the necessary cyanide emergency equipment (cyanide releases and medical) with them.

The containers which contain the cyanide boxes arrive sealed and are loaded on the truck at the port by the stevedores. They remain on the truck until unloaded at the mine by the mine staff.

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 total weight of the trailer and load is 58.9 tons. The truck 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 11.5 tons, meaning that the loading of axles is well within the legal maximums.

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. Routine maintenance is carried out on site monthly. The on-board computer on the truck dictates the maintenance frequencies, form and type of service required.

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 integrity of the boxes and containers can only be compromised if they are damaged during handling or moisture/water/liquids enter the containers or the boxes. The container is sealed by the producer and only opened at the mine, thus internal damage cannot be identified en route. A Container Interchange Report is completed and

jointly signed by the shippers representatives and the cyanide transporter's representatives to agree on any damage that may be sighted on the container at the port. The Vehicle Trip Checklist is completed at the mine, on delivery of the container and a section reports on container seals, labelling and general container condition. This checklist is counter signed by the mine representative. Ghana transport regulations require marking and placarding according to the Hazardous Materials Transportation Manual and The Transport Management Plan also contains placarding requirements as per the 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.

A pre-trip checklist is completed for the truck and trailer before the vehicle is loaded with the cyanide containers. The Fleet Preventative Maintenance (PM) Policy states that preventative maintenance is performed every six months on each vehicle. PM tasks are identified as broadly:- Inspection, preventative maintenance, oil changes and tune-ups. These tasks are identified in the TMS (Time Maintenance System) truck manufacturer's manual. The maintenance procedure includes detailed maintenance requirements (preventative and breakdown maintenance) for both tractors and trailers. The Manufacturers Preventative Maintenance for trailers suggests 6 monthly maintenance. The site has a pre-and post-trip maintenance check, in addition to the standard 6 monthly checks.

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 (4.5 hours); minimum daily breaks from driving during period of 12 hours on duty is 45 minutes (split into three 15 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 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



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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, short-wave radio, and satellite phones. 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. GPS tracking is implemented for all convoys. Convoys are phoned periodically from Vehrad head office and all calls are physically logged. 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, MSDS, packing list, Bill of Lading, customs declarations, and producer invoice.

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.


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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, Niger and Mali. 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. The possibility of using outside medical responders has been considered and a communication workshop with representatives of these bodies was held in January 2011.

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. All Convoy team members are trained in

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emergency response. 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. Stocks of ferrous sulphate are also kept at the mine sites. 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.

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 Plan (TMP) 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. The information is duplicated in other documents such as the Vehicle Operators Handbook.



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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, after the Plan is activated or when there is an incident or 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.



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