Consulting + Training

INTERNATIONAL CYANIDE MANAGEMENT CODE

Pt Energy Logistics Pre-Operational Transport Certification Audit – Indonesia – Summary Audit Report

Submitted to:
International Cyanide Management Institute (ICMI)
1400 1 Street, NW, Suite 550
Washington, DC 200005
United States of America

Pt Energy Logistics
Gerard Quillien
Jalan RS Fatamawati No8, Gandria Selatan
Indonesia

Report Number – ASHE-CN-001

Ashton Safety Health Environment
8/28 Robinson Ave
Perth WA 6000
P | 08 9228 1644 | F | 08 9228 1744
Phil Ashton | Director | Principal HSE Consultant | phil@ashtonshe.com.au
Amy Ashton | Senior HSE Consultant | amy@ashtonshe.com.au
www.ashtonshe.com.au

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1. INTRODUCTION

1.1 Contacts and Company Summary

Name of Cyanide Transportation Facility:	**Pt Energy Logistics**
Name of Facility Owner:	**Mr Jimy Suwono - Director**
Name of Facility Operator:	**Pt Energy Logistics**
Address:	**Jalan RS Fatmawati No 8, Gandaria Selatan**
State/Province:	**Jakarta**
Country:	**Indonesia**
Name of Responsible Manager:	**Gerard Quillien**
Telephone:	**+62 21 75900004**
Fax:	**+62 221 7663020**
E-Mail:	**gerard.quillien@energy-logistics.co.id**

1.2 Operations Summary

Pt Energy Logistics is a logistics company which offers services in air, sea, road and multimodal transportation, and overall management of these services. Its services also include customs clearance, chartering, packaging and expediting. The company is now looking to expand its operations into transportation of sodium cyanide to various gold mining clients. The initial consignment on certification will be from the International Port of Surabaya in Indonesia by road transport to the Port of Bitung in Kalimantan and hence to the mining client (Avocet) by road to North Sulawesi. Interim storage will be at Port facilities in Surabaya and Bitung.

Transport will be carried out by approved contractors who operate within the Pt Energy Logistics Cyanide Management System.

At the time of the Transport Certification Audit, Pt Energy Logistics had not commenced transportation of cyanide.

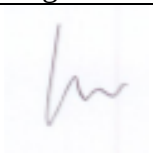
1.3 Auditor's Findings and Attestation

Pt Energy Logistics is:

⊗ in full compliance with
□ in substantial compliance *(see below) with International Cyanide Management Code
□ not in compliance with

Audit Company: Ashton Safety Health Environment
Lead Auditor: Phil Ashton
Email: phil@ashtoshe.com.au

1.4 Name and Signature of Auditor

Name	Position	Signature	Date
Phil Ashton	Lead Auditor and Technical Specialist		2nd December 2014

1.5 Dates of Audit

The ICMC Pre-Certification Audit was carried out during **5th May – 10th May 2014.**

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.

2. CONSIGNOR SUMMARY

2.1 Principal 1 – Transport

Transport cyanide in a manner that minimizes the potential for accidents and releases.

2.1.1 Transport Practice 1.1

Select cyanide transport routes to minimize the potential for accidents and releases.

The operation is	⊗ in full compliance with □ in substantial compliance with □ not in compliance with	Transport Practice 1.1

Summarize the basis for this Finding/Deficiencies Identified:

Pt Energy Logistics is in full compliance with Transport Practice 1.1 requiring transport of cyanide in a manner that minimizes the potential for accidents and releases.

Pt Energy Logistics has developed a Cyanide Management System which provides mandatory requirements for management of risk associated with cyanide transport. This system addresses procedural requirements for normal operations associated with cyanide transport, and emergency response in the unlikely event of an incident.

Specific procedures within the system provide detail of standards to be achieved in relation to assessment of the suitability of transport routes, and the process for identification of risk en route, and risk controls.

The risk assessment process includes key internal and external stakeholders and is reviewed formally on an annual basis, or when changed route conditions have potential to change risk profile and required controls. Risk is also reviewed in the unlikely event of an incident occurring.

Road conditions which may increase risk are reported back by the Convoy Supervisor to the Pt Energy Logistics OHS Manager as required and these conditions are discussed at Tool Box Meetings. Transport is suspended in the event that route conditions do not allow for safe transport. All transport is undertaken with a trained and competent convoy escort and there are specific and mandatory requirements to ensure maintenance of speed limits, maintenance of acceptable escort distances, security measures and implementation of additional risk mitigation measures as identified in management system procedures.

Pt Energy utilises contractors for transport of cyanide and, by contractual agreement, requires all contractors to comply fully with the Cyanide Management System and to confirm this by providing a contractor specific Statement of Commitment.

External stakeholders (police, emergency responders, hospitals and community representatives) en route have been contacted and involved in the route selection process. Pt Energy Logistics procedures for route selection and risk assessment require consultation and communication with

stakeholders, and for stakeholders to be involved in emergency response and cyanide safety training.

2.1.2 Transport Practice 1.2

Ensure that personnel operating cyanide handling and transport equipment can perform their jobs with minimum risk to communities and the environment.

The operation is	⊗ in full compliance with □ in substantial compliance with □ not in compliance with	Transport Practice 1.2

Summarize the basis for this Finding/Deficiencies Identified:

Pt Energy Logistics is in full compliance with Transport Practice 1.2 requiring all personnel operating cyanide and handling equipment to perform their jobs with minimum risk to communities.

Pt Energy Logistics' procedures for convoy delivery of cyanide requires competency and licensing requirements to be maintained by all its transport contractors. This requirement applies to truck drivers, escort drivers and the Convoy Supervisor.

All drivers of trucks must hold an Indonesian Class B II Licence. A training matrix is maintained for other training.

Pt Energy Logistics' training-related procedures require cyanide specific training and refresher training for all personnel involved in cyanide transport and handling including:

- **Cyanide handling**
- **Cyanide Management System key and relevant requirements related to all personnel involved in cyanide handling equipment and transport**
- **Use of hydrogen cyanide detectors**
- **Use of fire extinguishers**
- **First aid**
- **Use of oxy-viva**
- **How to read a Material Safety Data Sheet**
- **The Emergency Response Plan and specific roles within the plan**

Tool Box training sessions are also provided on a regular basis and transport personnel are involved in emergency exercises and de-briefs.

2.1.3 Transport Practice 1.3

Ensure that transport equipment is suitable for the cyanide shipment.

The operation is	⊗ in full compliance with □ in substantial compliance with □ not in compliance with	Transport Practice 1.3

Summarize the basis for this Finding/Deficiencies Identified:

Pt Energy Logistics is in full compliance with Transport Practice 1.3 requiring transport equipment to be suitable for cyanide shipment.

Pt Energy Logistics' procedures for maintenance of truck trailers and escort vehicles require use of only mechanically fit vehicles and trailers at all times.

Mandatory processes have been established for pre-departure vehicle and equipment checks, preventative maintenance based on road hours or calendar time (as relevant), use only of approved and compliant spare parts, supported by provision of a 24/7 response to any breakdown en route.

All work is carried out by competent mechanics. Detailed maintenance records are required to be maintained which allow trends to be examined and the preventative maintenance system to be continually improved as required.

Load bearing capacities of all components are maintained and these components are inspected during scheduled maintenance and as a component of pre-departure checks.

Full compliance with regulatory requirements is required in relation to loading requirements and packaging.

2.1.4 Transport Practice 1.4

Develop and implement a safety program for transport of cyanide.

The operation is	⊗ in full compliance with □ in substantial compliance with □ not in compliance with	Transport Practice 1.4

Summarize the basis for this Finding/Deficiencies Identified:

Pt Energy Logistics is in full compliance with Transport Practice 1.4 requiring development and implementation of a safety program for transport of cyanide.

Pt Energy Logistics' procedures require packaging in approved dangerous goods containers for transport, and loads to be secured in freight containers. Dangerous goods placarding is also provided as per national and international requirements.

The Pt Energy Logistics' Cyanide Management System contains all mandatory requirements for cyanide safety and emergency response. This system consists of a high Cyanide Management Policy, a number of mandatory procedures to follow for all employees and contractors. Tools and forms are also required to be completed for guidance, record keeping and auditing purposes. System procedures address key cyanide management requirements inclusive of, but not limited to, effective maintenance of vehicles and equipment, pre-departure inspections, requirements for safe work procedures, suspension of transport if the route is unsafe or if environmental conditions are severe, management of fatigue, management of alcohol and drug abuse and education and training. Procedures within the Cyanide Management System are as follows:

- **Cyanide Management Policy**
- **Fatigue Policy (MP/CMS/02)**
- **Drugs and Alcohol Policy (MP/CMS/01)**
- **Procedure for Convoy Delivery of Sodium Cyanide Class 6.1 (MP/CMS/06)**
- **Procedure for Incident and Accident Reporting (MP/CMS/03)**
- **Procedure for Maintenance of Truck Trailers and Escort Vehicles – Transporting Sodium Cyanide (MP/CMS/08)**
- **Procedure for Inventory Control (MP/CMS/09)**
- **Procedure for Interim Storage of Sodium Cyanide (MP/CMS/11)**
- **Procedure for Tracking and Communication (MP/CMS/04)**
- **Procedure for Route Selection and Risk Assessment (MP/CMS/05)**
- **Tool Box Talk Procedure (MP/CMS/07)**
- **Cyanide Transport Emergency Response Plan (MP/CMS/10)**
- **Procedure for Training (MP/CMS/12)**

The above procedures provide detail of requirements, define responsibilities for carrying out requirements, and provide a basis for undertaking regular internal and external audits.

2.1.5 Transport Practice 1.5

Follow international standards for transportation of cyanide by sea and air.

The operation is	⊗ in full compliance with □ in substantial compliance with □ not in compliance with	Transport Practice 1.5

Summarize the basis for this Finding/Deficiencies Identified:

Pt Energy Logistics is in full compliance with Transport Practice 1.5 requiring compliance with international standards for transportation of cyanide by sea and air.

The *Pt Energy Logistics Sub-Contractor Transport Agreement (F-CMS-JKT-01)* requires full compliance with international standards for transport of cyanide by sea, and with the Pt Energy Logistics' Cyanide Management System. Transport by air will not be undertaken. All sub-contractors to Pt Energy Logistics are viewed as employees for the purposes of compliance with the Cyanide Management System.

All transport by sea will be undertaken in compliance with the International Maritime Dangerous Goods Code.

2.1.6 Transport Practice 1.6

Track cyanide shipments to prevent losses during transport.

The operation is	⊗ in full compliance with □ in substantial compliance with □ not in compliance with	Transport Practice 1.6

Summarize the basis for this Finding/Deficiencies Identified: **(Due to the sensitivity of security issues regarding storage of cyanide, no descriptions of substantial or non-compliance with this aspect of the Transport Practice should be provided).**

Pt Energy Logistics is in full compliance with Transport Practice 1.6 requiring tracking of cyanide shipments to prevent losses during transport.

All transport vehicles are fitted with GPS, short wave radios and mobile phones to enable 24/7 communication and to ensure that there is no potential for "black spots" en route. Function testing is carried out as a component of the pre-start check for each convoy.

Shipping papers (dockets) are made available and signed en route at specific locations where transport and interim storage takes place. Material Safety Data Sheets are also available in all convoy vehicles.

Container seals are checked before departure and included on the pre-departure checklist. In addition, security measures are in place for the convoy.

2.2 Principal 2 – Interim Storage

Design, construct and operate cyanide trans-shipping depots and interim storage sites to prevent releases and exposures.

2.2.1 Transport Practice 2.1

Store cyanide in a manner that minimizes the potential for accidental releases.

The operation is	⊗ in full compliance with □ in substantial compliance with □ not in compliance with	Transport Practice 2.1

Summarize the basis for this Finding/Deficiencies Identified:[*]

Pt Energy Logistics is in full compliance with Transport Practice 2.1 requiring storage of cyanide in a manner that minimises potential for accidental release.

Warning placards are displayed at all interim storage areas at Port facilities requiring no smoking, personal protective equipment to be worn, high hygiene standards to be maintained, and

internationally recognised dangerous goods placards for cyanide storage and packaging to be displayed.

Security arrangements are in place at Port facilities, inclusive of security fences with locked gates and storage in secure containers.

Segregation of incompatible substances is also addressed, inclusive of segregation requirements from acids and oxidizing agents. Spill containment diversions are provided, as required, where there is any potential for incompatible run-off to impact on cyanide storage. The storage areas for cyanide are restricted to cyanide only and areas are sealed so that, in the unlikely event of spillage, effective clean-up can be undertaken in compliance with strict safety and environmental requirements. Adequate separation distances are also maintained to areas where personnel are employed in offices, workshops and the like. Segregation requirements are addressed in training.

Potential for cyanide to come into contact with water is addressed by provision of waterproof, double packaging with no requirement to open packages until they are at the end user. Containers are also located in an area free from flooding risk. Containers are also checked for damage on a scheduled basis.

To ensure adequate ventilation of containers, vents are checked for damage and blockage. However, potential for hydrogen cyanide release is recognised as low as a result of dangerous goods approved packaging being the sealed packaging in use.

Formal emergency procedures within the Cyanide Management System are utilised in the unlikely event of an incident. Port personnel are trained in these procedures and participate in emergency exercises as scheduled.

2.3 Principal 3 - Emergency Response

Protect communities and the environment through the development of emergency response strategies and capabilities

2.3.1 Transport Practice 3.1

Prepare detailed emergency response plans for potential cyanide releases.

The operation is	☒ in full compliance with ☐ in substantial compliance with ☐ not in compliance with	Transport Practice 3.1

Summarize the basis for this Finding/Deficiencies Identified:

Pt Energy Logistics is in full compliance with Transport Practice 3.1 requiring preparation of detailed emergency response plans for potential cyanide releases.

Risk mitigation measures within the Cyanide Management System are designed to reduce risk of cyanide incidents to as low as reasonably practicable (ALARP). The Emergency Response Plan (ERP) has been developed to address the acceptable, residual risk in the unlikely event of an

incident, and details requirements for response to all credible cyanide incidents so that impacts are minimised inclusive of loss of containment, fire and environmental impacts.

The ERP is supported by effective training in the form of theoretical and emergency exercises. All relevant stakeholders are involved in training and have been supplied controlled copies of the ERP.

General emergency plans exist at Ports and these are supported by procedures which are specifically related to cyanide and which link with the Pt Energy Logistics' ERP.

All emergency events at interim storage areas and en route must be reported immediately via a documented communication protocol.

The ERP reflects the mode of transport by road and provides specific responses to specific emergency scenarios involving cyanide incidents. Action cards are provided to detail response actions of each scenario, and for key players with a role to play in emergency management as they relate to treatment of injuries, community safety and environmental protection. These cards are held in convoy vehicles. Communication links with stakeholders and emergency responders are also documented and a complete listing of emergency responders, community representatives and hospitals en route is maintained up-to-date. Technical advice is available 24/7 from the cyanide suppliers in Western Australia.

The effectiveness of the ERP is tested on a regular basis via a schedule of exercises and the ERP amended, as required, to ensure continual improvement in response.

2.3.2 Transport Practice 3.2

Designate appropriate response personnel and commit necessary resources for emergency response.

The operation is	☒ in full compliance with ☐ in substantial compliance with ☐ not in compliance with	Transport Practice 3.2

Summarize the basis for this Finding/Deficiencies Identified:

Pt Energy Logistics is in full compliance with Transport Practice 3.2 requiring appropriate response personnel and the necessary resources for emergency response.

Emergency response kits are provided en route at hospitals and in convoy vehicles, and additional resources to control impacts from emergency events and to protect responders, are held at a central location for access by the Emergency Response Team. Emergency response equipment is inspected as a component of the pre-departure checklist and all resources are inspected annually by an independent specialist.

Emergency exercises are undertaken on a scheduled basis involving stakeholders en route and training is provided in ERP requirements, response to specific incident scenarios, cyanide safety, first aid and fire response. Annual refresher training is provided in emergency procedures.

2.3.3 Transport Practice 3.3

Develop procedures for internal and external emergency notification and reporting.

The operation is	⊗ in full compliance with □ in substantial compliance with □ not in compliance with	Transport Practice 3.3

Summarize the basis for this Finding/Deficiencies Identified:

Pt Energy Logistics is in full compliance with Transport Practice 3.3 requiring procedures for internal and external emergency notification and reporting.

A full listing of names and contact numbers for internal and external personnel and guidance on when these personnel need to be contacted, is provided in the *PT Energy Logistics' Emergency Response Plan.* The contact listing includes community representatives and other stakeholders in the cyanide transport and cycle. Contact protocol is also described.

The internal document control process at Pt Energy Logistics captures required changes to the ERP arising from exercises, annual reviews, changes to legislation and changes to contact details of stakeholders.

2.3.4 Transport Practice 3.4

Develop procedures for remediation of releases that recognize the additional hazards of cyanide treatment chemicals.

The operation is	⊗ in full compliance with □ in substantial compliance with □ not in compliance with	Transport Practice 3.4

Summarize the basis for this Finding/Deficiencies Identified:

Pt Energy Logistics is in full compliance with Transport Practice 3.4 requiring procedures for remediation of releases that recognise the additional hazards of cyanide treatment chemicals.

Response and remediation detail is provided in the Emergency Response Plan for specific responses to specific incidents. This detail includes required response to spills inside and outside of containment, handling wet cyanide, spills to waterways and fire response.

The Emergency Response Plan provides clear instructions when specific spill treatment chemicals cannot be used because of risk to the environment and communities inclusive of sodium hypochlorite, ferrous sulphate, hydrogen peroxide and other potentially polluting chemicals.

Training is provided in the above requirements to all personnel involved in emergency response.

2.3.5 Transport Practice 3.5

Periodically evaluate response procedures and capabilities and revise them as needed.

The operation is	⊗ in full compliance with □ in substantial compliance with □ not in compliance with	Transport Practice 3.5

Summarize the basis for this Finding/Deficiencies Identified:

Pt Energy Logistics is in full compliance with Transport Practice 3.5 requiring periodic evaluation of emergency response procedures and capabilities, and the need to revise procedures as required.

Emergency response exercises are undertaken on a scheduled basis in compliance with an established program. Exercises are undertaken for various emergency scenarios and involve all personnel who are likely to become involved in an emergency event.

De-briefs are held after each exercise and any deficiencies are discussed and addressed to enable continual improvement is response to be achieved.