

ICMC SUMMARY AUDIT REPORT
TRANSPORTES ZETRAMSA S.A.C
LIMA, PERÚ
2017



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SUMMARY AUDIT REPORT

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Signature of Lead Auditor

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Information on the Audited Operation

Name of Cyanide Transportation Facility:	Transportes Zetramsa S.A.C.		
Name of Facility Owner:	Transportes Zetramsa S.A.C.		
Name of Facility Operator:	Transportes Zetramsa S.A.C.		
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Location Detail and Description of the Operation:

Transportes Zetramsa, S.A.C. (Zetramsa) facilities are in Santa Anita, Lima, Peru. Zetramsa was formed with the aim of providing general freight service. Over the years, the company focused its activities in "specialized load" covering transportation of explosives, hazardous materials, delicate loads, machinery of all types and loads that exceeds the weights and standard measures transported. It provides heavy duty low-bed and oversized packages service, carrying from 15 to 100 tons per unit.

Zetramsa has a variety of platforms that conform to the different paths of Peru. They use units specially designed for the transport of explosives and cyanide to enter the country's major mining centers. They consider freight services with escort service nationwide for convoys or for route surveys.

This audit comprises the transport operations. Zetramsa has followed the Cyanide Code principles since early 2014; therefore, records were reviewed back to March 2014.

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Auditor's Finding

This operation is

- in full compliance
- in substantial compliance
- not in compliance with

with the International Cyanide Management Code.

This operation has maintained full compliance with the International Cyanide Management Code throughout the previous three-year audit cycle. Zetramsa has not experienced any significant cyanide incidents during the previous three-year audit cycle.

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Audit Team Leader:	Bruno A. Pizzorni	bpizzorni73@gmail.com
Transport Technical Auditor	María del Pilar Arrese	
Date(s) of Audit:	June 9, 2017	

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 Transport Operations and using and accepted practices for health, safety and environmental audits.

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

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

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:

Zetramsa has a Contingency Plan for sodium cyanide transportation. In Chapter 4 Planning Response, they have been realized a preliminary inspection of the transport routes where the main hazards and risks have been identified. The process considers population, conditions of roads, pitch and grade, proximity of water bodies and fog.

Zetramsa has a procedure for the preparation of road maps (P-TRA-009), which establishes to perform a risk analysis and the steps to follow for the preparation of roadmaps for all routes covered by the organization during the execution of the transport service. Once identified the risks, they establish the necessary control measures necessary to manage these risks.

Zetramsa periodically reevaluates their routes used for cyanide deliveries, the drivers provide feedback on the route conditions. The Contingency Plan refers an annual renewal. Also, the making roadmaps procedure says that changes will be done when road conditions require an update.

Zetramsa document the measures taken to address risks identified with the selected routes. Risk mitigation measures are noted on the route documentation, where applicable. The dispatch orders indicate the routes. Risk mitigation measures focus primarily on the avoidance of social unrests, high traffic times of day and the avoidance of roads that are dangerous in poor weather conditions.

Zetramsa interacts with communities, governmental agencies en emergency responders in the development of risk management measures. In most cases there is only one route to access to the mine sites. There is evidence of communications of its cyanide transport operations to hospitals and firefighters in Lima

The transporter uses convoys and escorts. According to the transport procedure in convoy (P-TRA-016 version 00), operations with sodium cyanide up to 5 units require two escort vans. If they exceed 5 units will require double escort units and time-spaced departures to avoid congestion in the way.

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Zetramsa has provided information to external responders (MSDS, emergency and product information) to support emergency centers (emergency responders, medical centers, and fire fighters) along the routes.

The transporter does not subcontract any portion of their cyanide transportation operations. Tractors and trailers are owned by Zetramsa. ICMC requirements pertaining to subcontractors are, therefore, not applicable to the organization.

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.

Full Compliance

The operation is in substantial compliance with Transport Practice 1.2

not in compliance with

Summarize the basis for this Finding/Deficiencies Identified:

Zetramsa work with qualified and licensed drivers. All Zetramsa drivers transporting cyanide have at least training in the Contingency Plan (ERP) and hazardous materials transport. All drivers must pass psych technical and a medical examination to be able to drive. Drivers are also trained in defensive driving, firefighting, first aid, sodium cyanide and its emergencies (cyanide spill and poisoning). The convoy leader must have transport background, to be knowledgeable on basic mechanics, and leadership qualities. The current convoy leaders have over five years of experience escorting hazardous materials convoys.

Operational training is given upon hire and there is a skills evaluation process to ensure that drivers are competent to perform their job and to drive the designated route prior to their first delivery. Safety-related training is given at defined intervals to ensure that all personnel operating cyanide transportation equipment can perform their jobs in a manner that minimizes the potential for cyanide releases and exposures.

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

Full Compliance

The operation is in substantial compliance with Transport Practice 1.3

not in compliance with

Summarize the basis for this Finding/Deficiencies Identified:

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Zetramsa use equipment designed and maintained to operate within the loads it will be handling. Equipment labels were reviewed during the audit. All available tractors and trailers have been checked and were rated for weights that exceed maximum loaded weights. The load capacity of the platforms used by Zetramsa is larger than the gross weight of an ocean container fully loaded with cyanide which is approximately 22 t.

To ensure the adequacy of the equipment for the load it must bear, Zetramsa inspects and performs regularly preventive maintenance actions. The maintenance program is well organized, defined checklists showing all necessary maintenance activities are used and records were available. Inspections are scheduled, tracked and documented. Each tractor and trailer has its own file that is maintained. The file shows all preventive maintenance activities, repair activities, and inspection activities that were performed on the truck and/or trailer over time.

To prevent overloading of the transport vehicle, Zetramsa has established that each platform will be loaded with only one cyanide container and that each truck can only haul one platform trailer. This is consistent with the information included in the inspection checklist and was confirmed during the interviews.

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

Full Compliance

The operation is in substantial compliance with Transport Practice 1.4

not in compliance with

Zetramsa transports only solid cyanide in sealed containers. Normal safe driving procedures and unloading procedures ensure that the truck and the trailer are not damaged during transit. The transport procedure establishes that the load cannot be altered during the transportation process. To ensure this, tags are placed in the ocean container's locks at the manufacturing facility. These tags can only be removed at the mine. The containers received in the port are placed on platform trailers hauled by trucks without the need of changing the packaging. Per the interviewed personnel, the load is not removed from the container.

Appropriate placards showing UN 1689 (solid cyanide) are displayed on all four sides of the sea containers. Drivers visually inspect the containers prior to each movement. Equipment markings were found to be adequate and conformant.

Zetramsa has a safety program for cyanide transport. Drivers conduct a pre-trip inspection before the vehicle departs to the port facility for loading (documented through the vehicle

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inspection checklist). Mechanical defects are called to the attention of the on-site mechanics. Issues that would affect safety and/or legal compliance are resolved prior to movement off-site. Driver interviewed demonstrated knowledge of the process of performing pre-trip inspections; pre-trip inspection checklists covering the re-certification audit period were reviewed and found to be acceptable.

Zetramsa has a Maintenance Program for their vehicles (P-MAN-001 Mantenimiento Preventivo o Correctivo de Unidades version 06, issued on 30-01-17) for preventive and corrective activities.

According to the sodium cyanide transport procedure P-TRA-007 version 03, approval date 12/28/2016, the transport will only be carried out during daytime hours, from 6:00 AM to 6:00PM, in the same way, drivers must rest at least eight (08) hours before the destination of the trip. The working day of drivers traveling with Sodium Cyanide may not exceed twelve hours a day discontinuous, allowing stoppings every two to three hours for ten minutes or more for equipment review, feeding and active stops.

The load shifting within the container is not considered possible as all containers are filled with 20 boxes and block and brace is applied at the cyanide production plant to prevent load movement. At the same time, trailers have pins where the container is embedded preventing it from shifting. Cyanide travels in sealed containers, which are secured to the platform safely, eliminating the possibility of displacement during transport.

According to the sodium cyanide transport procedure P-TRA-007 version 03 the transport can continue only if the leader of the convoy has provided the relevant conditions.

Before each trip, the employee must undergo alcohol testing and periodically discard evidence of drug use. Violation of this policy has resulted in the separation of the worker from the organization.

Records covering the re-certification audit period between March 2014 and April 2017 were available to demonstrate that the requirements of each of the above-mentioned sections (1.4.3 a) through f)) had been fulfilled. Records are maintained in hard copy at the office for a period.

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

Full Compliance

The operation is in substantial compliance with Transport Practice 1.5

not in compliance with

Zetramsa does not ship cyanide by sea or by air.

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

Full Compliance

The operation is in substantial compliance with Transport Practice 1.6

not in compliance with

Cyanide shipments are tracked using a GPS tracking system that is monitored by Zetramsa. The convoy leader is provided with a cellular phone and a satellite phone. The convoy leader has also a radio and he is responsible of communications with Zetramsa in case of an emergency. The drivers also have cell phones as a back-up means of communication.

The communication and tracking equipment is properly maintained and is used daily. Communication systems is part of the pre-work inspections and is maintained along with the formal preventive maintenance program. The system is used each day and correct operation of the system is confirmed at that time.

Communications blackout areas are identified in each route risk assessment. In his internal and external communication procedure (P-SGI-007 version 03), a check box is shown to ensure communication during the transport process, in places where there is no permanent access to communication signals.

Zetramsa has a communication and GPS tracking system which allows continuously monitoring of the location of the convoy. The convoy leader communicates Zetramsa upon dispatch, upon arrival at the customer sites, and after unloading is complete. Personnel responsible for tracking shipment status from Zetramsa were interviewed, the GPS system was demonstrated, and logs showing that shipment status was being recorded were reviewed and were found to be complete.

The transport document shows the amount of cyanide delivered. This paperwork is used to document the chain of custody and is signed upon delivery of the product to the customer. The amount of cyanide delivered is carefully monitored by the driver and remotely through the Zetramsa dispatch office.

The transport document, the MSDS, and emergency response information are carried by each driver. The drivers have an on-board file that includes copies of its, licenses, and the cyanide MSDS.

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

2.1 Transport Practice 2.1: Store cyanide in a manner that minimizes the potential for accidental releases.

Full Compliance

The operation is in substantial compliance with Transport Practice 2.1

not in compliance with

Zetramsa does not have any interim storage responsibilities. Additionally, no trucks containing cyanide can be stored at the terminal. If a delivery is interrupted, loaded cyanide trucks would be stored in a secure location. The scope of this audit is for the ground transportation operations performed by Zetramsa from Callao port to mines in Peru.

There is no storage of cyanide within a building. Therefore, there is no possibility for buildup of hydrogen cyanide gas within a structure. Transportation equipment is designed to securely contain its contents. Loading is done at the warehouse facility on a concrete slab to provide an adequate impermeable barrier.

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

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

Full Compliance

The operation is in substantial compliance with Transport Practice 3.1

not in compliance with

Zetramsa maintains an Emergency Response Plan (ERP) called Contingency Plan for Transport of Sodium Cyanide v2 dated August 26, 2106, to respond to potential releases of cyanide during transport. The ERP is appropriate for all transportation incidents.

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The Plan is appropriate and designed for the specific circumstances. The Plan reflects 11 specific issues that could arise during the transportation route (several different routes). The Plan identifies possible emergency situations as sodium cyanide release to road, land, surface water and robbery during transportation.

The Plan considers the physical and chemical form of the cyanide. The only form of cyanide to be shipped using this supply chain is solid sodium cyanide. Emergency response procedures address actions to be taken in response to a solid sodium cyanide spill.

The Plan considers the method of transport, truck. No other methods of transport are used in this trucking company. The Plan considers the transport of cyanide in its own trucks and appropriately addresses the emergency response actions. The Plan is adequate for the selected transport routes, based on a review of the hazards and risk assessments after the completion of the route sheet.

The plan considers all parts of the transportation infrastructures including the conditions of the roads (mine road versus highway) and urban areas.

Zetramsa considers the trucks design as the transport vehicles in the procedure Sodium Cyanide Transport Procedure P-TRA-007- V 03. Section 6.2 Characteristics of the Carrier. Also, this consideration is present in the ERP, Section 2.3.1 Responsibilities of Zetramsa. Both documents define the appropriate trucks and chassis to use to transport cyanide.

The Plan specifically consider response actions that may be needed for emergency situations during transportation. The Plan includes detailed response actions for each case, including spills in both current and stander open water bodies and for the other risks identified on the routes. Section 5.5 Emergency Procedures, the Plan considers a series of instructions covering the potential hazards that could occur during the loading, transportation and unloading of the cyanide cargo.

In Section 2.3.2 Responsibilities of Other Parties of the Plan it is established the role of outside responders and medical facilities in emergency response procedures. The police will provide support and safety to the transport units during the passage through cities and towns medical facilities and will take control of traffic routes in case of an accident. The firefighters on arrival, will take control of the emergency.

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

Full Compliance

The operation is in substantial compliance with Transport Practice 3.2

not in compliance with

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Training on emergency response is given periodically to drivers, convoy leaders and supervisors. They are trained in appropriate emergency response in safe cyanide management (spill and intoxication), firefighting, first aid, hazardous materials Level I and Level 2. Training is provided by external companies as workouts which are renewed annually complying with the training plan and verifying compliance with specific skills.

Section 2.3.1 Responsibilities and Functions of Those Involved in the Contingency Plan of the ERP has very detailed descriptions of the specific emergency response duties and responsibilities before, during and after an incident / accident or an emergency situation.

Zetramsa has defined in the ERP the materials required for emergency response during transportation along the route including spill response equipment. Section 4.7 Emergency Equipment and Personal Protection lists of equipment includes Tychem suits, leather and impermeable gloves, PVC boots, safety goggles, area isolating tape rolls, HCN detector, water analysis kit, disposable respirators, oxygen, shovels, sweeps, polyethylene bags, calcium hypochlorite and empty containers.

Each truck has the required emergency response equipment. In addition, the convoy escort vehicle has a complete emergency response equipment, including personal protective equipment, spills containment kit, dilute calcium hypochlorite and amyl nitrite ampoules. The emergency equipment and materials are checked prior to each cyanide delivery. A checklist is used to verify that it is available and it is part in the operation files.

Zetramsa drivers receive an appropriate level of training to enable them to fulfill their role in emergency response, which is limited to a notification role. Formal training in cyanide is given periodically.

Among the control measures to adopt for the transportation of hazardous materials, Section 4.6 Mitigation and Risk Management Procedures of the ERP addresses to perform inspections to the emergency response equipment before loading the truck by transport and operations personnel of Zetramsa. Also, the emergency equipment boxes are inspected on a regular basis when vehicles trucks are brought in for maintenance and inspections. A checklist is used to verify that it is available prior the convoy's departure and it is kept in the operation file.

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

Full Compliance

The operation is

in substantial compliance with Transport Practice 3.3

not in compliance with

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The ERP in Chapter 5 Activation of the Emergency Plan, Sections 5.3.1 and 5.3.2 has current contact information for notifying the shipper, the receiver/consignee, regulatory agencies, outside response providers, medical facilities and potentially affected communities of an emergency. Zetramsa prepares an information package for drivers which includes a sheet with an updated telephone list. The Operations Manager and the Project Manager updates the contact list when required.

The ERP is reviewed once each year, according to the Procedure of Control of Documents and Records P-SGI-001. During this activity, the phone numbers are checked for accuracy to ensure that internal and external emergency notification contacts are kept current.

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

Full Compliance

The operation is in substantial compliance with Transport Practice 3.4

not in compliance with

The ERP describes how the recovery will take or neutralize the solid, the decontamination of soils, or other contaminated media and how these wastes are managed. The Plan addresses the immediately actions to follow in case of spills, preventive measures to avoid, cleaning methods and how to treat waste.

Zetramsa has an agreement with contractor Eco Marine Peru for remediation actions and for reporting the incident to local authorities as OEFA (Environmental Assessment and Inspection Agency) and to DEGASA (Directorate General for Socio-Environmental Affairs).

Zetramsa prohibits the use of sodium hypochlorite, ferrous sulfate and hydrogen peroxide to treat cyanide that has been released into surface water. The ERP in Section 5.6.3 Impact Assessment on Public Health and the Environment addresses that the use of these chemical substances in any incident for the treatment of solid sodium cyanide spilled in surface waters is prohibited.

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

Full Compliance

The operation is in substantial compliance with Transport Practice 3.5

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The ERP is reviewed once each year, according to the Procedure of Control of Documents and Records P-SGI-001. Records were available to show that this is done, the ERP reviewed was version 2, updated to August 2016.

The ERP establishes in Section 4.4 Mock Drills, that these must be carried out every year. Also, that the practices will be scheduled in coordination with the client, to keep the personnel permanently prepared for an emergency. Cyanide related emergency drills have been held annually during the re-certification audit period.

Section 4.4 of the Plan establishes that after the mock drill, the analysis of the observations or failures detected during the exercise will be carried out, for which it will have to prepare a schedule of actions and courses that must be received by the personnel to correct these observations and of that to complete the equipment or information needed for a real case.

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