ICMI Cyanide Code Supply Chain Summary Audit Report

Cyanco Mexico Supply Chain Re-Certification Audit

Submitted to:
The International Cyanide Management Institute
1400 I Street, NW – Suite 550
Washington, DC 20005
USA
2018 Audit Cycle
Company Information:

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Cyanco Mexico Supply Chain Description

Cyanco maintains offices in Reno, Nevada - USA, Pearland, Texas – USA, Montreal, Quebec – Canada and Hermosillo, Sonora - Mexico, a solid sodium cyanide production facility outside of Houston, Texas - USA, a liquid sodium cyanide production facility near Winnemucca, Nevada - USA, and terminal operations in Cheyenne, Wyoming - USA, Cadillac, Quebec – Canada and Hermosillo, Sonora – Mexico.

This audit was used to evaluate the Cyanco Mexico Supply Chain that is used to distribute cyanide shipments in Mexico. Transport of both solution and solid sodium cyanide to the U.S.-Mexico border is done using the Cyanco ICMC-certified North American (N.A.) Rail and Truck Supply Chain (see posted ICMC certification report). Cyanco also maintains the capability of transporting solid sodium cyanide via this supply chain using the Port of Guaymas and the ICMC-certified Cyanco Global Ocean Supply Chain. At the time of the audit, only bulk sodium cyanide solution
being brought in by rail using Ferromex was being transloaded at the Hermosillo Distribution Center.

Cyanco operates the Hermosillo Distribution Center under the commercial name of Winnemucca Chemicals, S.A. de C.V. The transload of the sodium cyanide solution from rail to truck at the Distribution Center was audited to production protocol requirements and was found to be in full ICMC compliance in 2016 (see ICMI web-site posting).

This certification audit specifically addresses the ICMC transportation protocol requirements associated with the supply chain from the U.S.-Mexico border and from the Port of Guaymas to the Hermosillo Distribution Center and to customers in Mexico.

Truck trans-border crossing and transport within Mexico is performed by Cyanco’s selected transport contractor, TSM Division Trucking, S.A. de C.V. (TSM). TSM receives the chassis and containers (or iso-tanks) at their truck yard in Laredo, TX, USA and delivers the loads to Hermosillo and to customer facilities within Mexico, to the states of Guerrero and Queretaro. TSM has also received cyanide containers at the Guaymas Port and transported them to the Hermosillo Distribution Center and/or customers. TSM operations at the Hermosillo Distribution Center and at the TSM main office in Queretaro were audited.

Rail shipments are transported to Ferromex from the Union Pacific Railroad (UP) in 20,000-gallon railcars bulk liquid cyanide deliveries and via flatbed rail cars for solid cyanide deliveries at the USA border in Nogales. The liquid cyanide is transferred to ISO tanks and then transported to mine operations in Mexico by TSM. The solid cyanide in either sea containers or ISO Tanks is off loaded from flatbed cars and then transported by TSM to mine operations in Mexico.

The Hermosillo Distribution Center is operated by Winnemucca Chemicals, S.A. de C.V. – Only the portion of interim storage area at Hermosillo Distribution Center courtyard is within scope of this audit. Aside from the Port of Guaymas, the Hermosillo, Distribution Center is the only interim storage operation used by Cyanco as part of their Mexico supply chain.

Cyanco has developed formal manuals, procedures, and practices that ensure that all ICMI International Cyanide Management Code requirements are fulfilled.
Audit Information – Cyanco Mexico Supply Chain

The ICMC audit of the Cyanco Mexico Supply Chain was performed by an independent 3rd-party auditor who is pre-approved by the ICMI as a Lead Auditor for all types of ICMC audits and as a Technical Expert for ICMC audits of cyanide transportation, production and mining operations.

The ICMC certification audit of Cyanco as a Consignor/Transporter was conducted from June 18 to 21 in 2018 at Hermosillo and Queretaro, Mexico.

Cyanco's procedures, policies and planned transportation management practices for its Mexico Supply Chain were evaluated against the ICMI International Cyanide Management Code requirements, as documented in the ICMI Cyanide Transportation ICMC Verification Protocol. The audit was conducted through observations of operations in Mexico, a review of records and documentation, and discussions and interviews with multiple individuals in cross-functional roles at Cyanco and its supply chain partners. The Due Diligence information for the Port of Guaymas and Ferromex railroads is also included in this report.

The results of this ICMC certification audit and the related due diligence reviews indicate that Cyanco and its Mexico Supply Chain are in FULL COMPLIANCE with ICMC transportation requirements.
Cyanco Mexico Supply chain - Auditor’s Finding

The Cyanco Mexico Truck Supply chain is:

☑️ in full compliance

☐ in substantial compliance

☐ not in compliance

with the ICMC requirements of the International Cyanide Management Code.

The operations included in this audit have not experienced any significant cyanide incidents, releases, or exposures since the supply chain was originally certified in 2014. The operations were found to have been in compliance with the ICMI Cyanide Code since the previous ICMC certification in 2015.

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| Date(s) of Audit | Cyanco Mexico Supply Chain audit dates: June 18 to 21, 2018 |

I attest that I meet the criteria for knowledge, experience and conflict of interest for Code Certification 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 Certification Auditors.

I attest that the Audit Report accurately describes the findings of the certification audit. I further attest that the certification audit was conducted in a professional manner in accordance with the International Cyanide Management Code Certification Protocol for Cyanide ICMC Transportation Operations and using standard and accepted practices for health, safety and environmental audits.

Cyanco Mexico Supply Chain

Name of Supply Chain: Cyanco Mexico Supply Chain

Signature of Lead Auditor: [Signature]

Date: 6/18/2018 to 6/21/2018

Name of Supply Chain: Cyanco Mexico Supply Chain

Signature of Lead Auditor: [Signature]

Date: 6/18/2018 to 6/21/2018

[www.mss-team.com](http://www.mss-team.com)
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.

☑ in full compliance with

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

**Detailed Responses to Practice 1.1 Questions:**

Cyanco has implemented a process for selecting transport routes that minimize the potential for accidents and releases. The Cyanco International Cyanide Management Code Compliance Manual (ICMC Manual) defines that all ICMC criteria must be considered during the planning of shipping routes. Examples were available showing that Cyanco Leadership evaluated transportation partner TSM for route selection processes, and emergency response capabilities to confirm suitability of the transportation partners and the routes chosen. The ICMC Manual states that appropriate risk considerations are to be made for each type of mode used.

TSM trucking company maintains a documented route selection process for transportation routes that considers population density, infrastructure, pitch & grade, proximity to water bodies, and the prevalence and likelihood of poor weather and resulting poor driving conditions.

Cyanco has implemented a process to evaluate the risks of selected cyanide transport routes and take the measures necessary to manage these risks. Risk mitigation measures taken by Cyanco prior to using this Supply Chain included: the development and implementation of an improved shipment tracking process and the revision of the Cyanco Emergency Response Procedures.

Records were available to show that Cyanco and TSM participate in meetings together with their mining customers. The results of these meetings are used in the overall cyanide delivery planning processes. Appropriate risk mitigation measures are used.

Cyanco has implemented a process to periodically re-evaluate routes used for cyanide deliveries. Feedback regarding routes chosen is gathered during the partner re-evaluation process. Partner in the supply chain TSM trucking company is re-evaluated annually. According to interviews with Cyanco personnel, feedback regarding the routes is gathered during this partner re-evaluation process.

Cyanco documents the measures taken to address risks identified with the selected routes. Cyanco maintains records of transportation routes and associated risks and mitigation measure deployed.
During the development of the routes, both TSM and Cyanco consider risks such as pitch and grade of roads, traffic congestion, weather and proximity to water bodies. Records were available to show that Cyanco and TSM participate in meetings together and with their mining customers. The results of these meetings are used in the overall cyanide delivery planning processes. Appropriate risk mitigation measures are used, and records of risk mitigation decisions are maintained.

Both Cyanco and TSM seek input from communities, other stakeholders and applicable governmental agencies as necessary in the selection of routes and development of risk management measures. Records were available to demonstrate that Cyanco personnel have met with transportation partner and local stakeholders to seek input from communities, non-governmental organizations, and governmental authorities to seek input into the planning for their global supply chains.

Where routes present special safety or security concerns, TSM uses additional safety or security measures to address concerns. The rail routes are pre-designated routes used for all hazardous material shipments.

Weather, traffic and security conditions are constantly monitored, and deliveries are postponed if a route is considered to be unsafe. Drivers are empowered to stop a delivery if the conditions are considered to be unsafe. Interviews were used to also confirm that drivers adhere to designated routes and request authorization prior to deviating from the established routes.

Cyanco and TSM advise external responders, medical facilities and communities of their roles and/or mutual aid during an emergency response. Cyanco regularly meets with its transportation partners to advise them of their role in an emergency. Cyanco trains community responders and hospitals in Queretaro and Hermosillo. Cyanco uses its documented procedures and formal contracts with safety, health, environmental, and security terms and conditions to ensure that cyanide is appropriately handled and transported by its transportation partners.

Cyanco coordinates emergency response for cyanide deliveries made by TSM, with emergency responder Chemtrec based at Hermosillo, an emergency incident support for shippers of hazardous materials and advises them of their role should there be an emergency situation. No subcontractors are used by TSM.

Cyanco uses TSM trucking company for cyanide ground transportation across the international border and within Mexico; TSM was audited as part of Cyanco’s supply chain and was found in compliance with the code.
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.

☑ in full compliance with

The operation is

☐ in substantial compliance with

☐ not in compliance with Transport Practice 1.2

Detailed Responses to Practice 1.2 Questions:

Cyanco uses only trained, qualified and licensed operators and companies to transport its products. Cyanco ensures that its transportation partners in Mexico Supply Chain are compliant with ICMC requirements and are assessed by auditors during either certification audits (trucking transporters and interim storage) or due diligence audits (rail carriers).

TSM maintains a policies and procedures manual for the transportation of sodium cyanide. In this manual the requirement to only use qualified drivers who have received appropriate operational and safety training.

Interviews with TSM drivers, dispatch, management, and maintenance personnel were used to confirm that personnel operating cyanide transportation equipment can perform their jobs safely and appropriately. Training related to cyanide and the delivery of cyanide is given by Cyanco and TSM Management personnel. Records were available for review.

TSM maintains training management processes to ensure that driver training is up-to-date. Drivers showed very good awareness of unloading procedures and of emergency shut-off procedures that would help mitigate the risk of having a cyanide release during an unplanned event.

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

☑ in full compliance with

The operation is

☐ in substantial compliance with

☐ not in compliance with Transport Practice 1.3
**Detailed Responses to Practice 1.3 Questions:**

Cyanco uses only supply chain partners with equipment designed and maintained to operate within the loads it is handling. The Cyanco ICMC Manual states that Cyanco reviews all transportation partners to ensure that ICMC transportation requirements are fulfilled.

Shipment records were reviewed during the audit in Queretaro and Hermosillo to confirm that standard weights within the capacity of the intermodal containers, tractors, trailers, ISO tanks, rail tank cars and chassis were being shipped. ISO weight capacities and the fulfillment of ISO tank inspection requirements were reviewed during the audit and were found to be compliant. Cyanco uses only authorized packaging for its sodium cyanide shipments.

TSM equipment was found to be in very good condition. The tractors and trailers are enhanced with upgraded equipment and heavy-duty frames to ensure safe travel over rough terrain to the mine sites. Tires are replaced on a frequent basis and regular maintenance activities and inspections are conducted.

According to interviews with Cyanco and TSM personnel who load the trailers, intermodal containers and ISO tanks, standard weights are loaded. Standard blocking and bracing configurations are used for van trailers and intermodal containers. Shipping paperwork was reviewed during the audit and showed the number of packages shipped and the weight of the cargo. This information is used by transportation partners to ensure that overloading does not occur.

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

- [ ] in full compliance with
- [ ] in substantial compliance with
- [x] not in compliance with Transport Practice 1.4

**Detailed Responses to Practice 1.4 Questions:**

Formal procedures were available for all operations at the two facilities audited as part of this supply chain. The seal numbers are recorded on the shipping paperwork according to loading procedures. Records were available to confirm this practice.

TSM has a formal safety program that clearly addresses all ICMC safety program requirements. Formal procedures and training programs are used to ensure that cyanide is transported in a manner that is safe and protective of the transportation.
Cyanco uses placards and other signage to identify the shipment as cyanide, as required by local regulations or international standards. The number UN 3414 for liquid sodium cyanide or UN 1689 for solid sodium cyanide is displayed on all packaging and rail cars. Records were available to show that Cyanco worked with appropriate governmental agencies to ensure that rail car placards were correct and compliant with regulations.

For the truck portion of the supply chain van trailers, intermodal containers, and ISO tanks are loaded with standard blocking and bracing configurations. Cyanco uses UN 1689 placards to identify the shipments as sodium cyanide, as required by local regulations and international standards. Section 3.1 of the ICMC Manual addresses this requirement. Proper placarding and labeling of semi-bulk packages, intermodal containers, van trailers, and ISO tanks were observed throughout the supply chain audits. Records were available to demonstrate that the applicable requirements of each of the Safety Program sections of the Cyanide Code had been fulfilled.

Records were available to demonstrate that the applicable requirements of each of the ICMC Safety Program sections had been fulfilled both by Cyanco and TSM. Trucks and trailers are inspected prior to shipment. Completed checklists were available for review and were acceptable at all locations audited. Cyanco tracks but does not perform maintenance of its rail cars. This is done by approved rail maintenance shops.

Cyanco and TSM ensure that necessary maintenance and inspections of ISO tanks, and tanker trailers is performed. Maintenance tracking records were reviewed and were found to be acceptable. TSM inspects its vehicles prior to every shipment and maintenance is performed according to their maintenance plan, depending on equipment type. Maintenance records were found to be complete.

Limitations on worker hours in Mexico trucking industry is regulated by the government. Cyanco and TSM also has these requirements as part of its contractual standard terms and conditions. These were reviewed during the audit and were found to be acceptable.

TSM limits its driver hours to Mexican transportation regulations. TSM monitors driver hours to ensure compliance. Dispatch and delivery records were reviewed during the audit and were found to be acceptable.

Standard blocking and bracing configurations are used by Cyanco for van trailers and intermodal containers. TSM does not open cyanide shipments, they ensure proper function and maintenance of the tractors towing point and check for the cargo to ensure proper blocking of the intermodal containers and ISO tanks to the platforms. Shipping paperwork was reviewed during the audit and showed the number of packages shipped and the weight of the cargo. This information is used by transportation partners to ensure that overloading does not occur. Vehicle pre-use checklists and trailers checklists were available for review to demonstrate that cargo securement is checked prior to departure to ensure that there is no shifting of the load.
Cyanco and TSM have procedures by which transportation can be modified or suspended if conditions such as severe weather or civil unrest are encountered.

Weather conditions are constantly monitored, and deliveries are postponed if a route is considered to be unsafe. Drivers are empowered to stop a delivery if the conditions are considered to be unsafe. Interviews were used to also confirm that drivers adhere to designated routes and request authorization prior to deviating from the established routes.

Interviews were conducted with drivers and procedures were reviewed during the audit to confirm that drivers are empowered to modify or suspend a shipment if unsafe conditions exist. Such a change in delivery plans would be done in close coordination with the TSM dispatcher, Cyanco personnel, and with the mining customer.

Cyanco compliance manual requires the transporter to perform random drug and alcohol test and to have a preventive maintenance for all their transport equipment; which are performed by TSM to their personnel. Records were available to show that all parts of the TSM safety program are effectively being implemented.

Cyanco and TSM have implemented safety programs for cyanide transport that include all ICMC required considerations, including retention of records documenting that the above activities have been conducted. The Cyanco ICMC Manual states that Cyanco confirms that its transportation partners follow all ICMC requirements. The TSM cyanide transportation manual also requires compliance with all ICMC requirements. Records were available to show that all parts of the Cyanco and TSM safety program are effectively being implemented. Safety Program records were found to be complete.

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

- ☑️ in full compliance with
- ✗ in substantial compliance with
- ✗ in not compliance with

The operation is

Transport Practice 1.5

No shipments are made via air or sea on this transportation segment.
**Transport Practice 1.6:** Track cyanide shipments to prevent losses during transport.

- ✔️ in full compliance with
- □ in substantial compliance with **Transport Practice 1.6**
- □ not in compliance with

**Detailed Responses to Practice 1.6 Questions:**

Cyanco and TSM personnel maintain constantly communication regarding the shipments progress. TSM maintains communications with truck drivers making cyanide deliveries. Depending on the location, this communication is either direct through a communication system or indirect through the dispatcher. All drivers have communication equipment consisting of at least cell or satellite phones, and most drivers have multiple communication systems available to them at all times. Both Cyanco and TSM track shipments by Global Positioning System (GPS).

All communication equipment is confirmed by TSM to be operational at the start of each trip. Procedures, checklists, and interviews were used to confirm this practice.

Cell phone black-out areas during the different routes to the mine sites are defined by Cyanco and TSM in their cyanide transportation route description. TSM issues a satellite phone to any drivers who are being dispatched on a route with a known cell phone blackout area; mostly all regular roads in Mexico have cellphone coverage. A review of procedures and driver interviews were used to confirm this practice.

Cyanco and TSM have systems and procedures to track the progress of cyanide shipments. Specific operations coordinators have designated responsibilities for tracking shipments on a daily basis.

Appropriate action is taken to ensure that cyanide shipments keep moving, stay on pre-designated routes, and that their location can always be confirmed. The daily tracking reports were reviewed during the audit and confirmation was made that cyanide shipments railcars are being tracked continuously from the point at which they are put into service and enter the fleet. Information was available for review to demonstrate that Cyanco tracks all rail cars, ISO tanks, and tank truck trailers using GPS and/or other tracking systems.

Cyanco and TSM shipping paperwork was found to be conformant to ICMC requirements, including chain of custody requirements. A waybill accompanies the transportation which includes chain of custody data such as container numbers, waybill numbers, shipping documentation, SDS, packing list, bill of lading, customs declarations, producer invoice, copy of lease agreement etc.
The following documentation is used to track inventory and movement of cyanide: bills of lading and shipping papers indicating the number of packages and amount of material. Information was found to be compliant in general for Cyanco shipments and specifically for TSM shipments. Cyanco dispatches all shipments with Safety Data Sheets (SDS) that are appropriate for the type of sodium cyanide being shipped (solid or solution).

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.

- [ ] in full compliance with Transport Practice 2.1
- [ ] in substantial compliance with Transport Practice 2.1
- [X] not in compliance with Transport Practice 2.1

**Detailed Responses to Practice 2.1 Questions:**

Interim storage activities in this supply chain, as defined by ICMI, take place at Hermosillo Distribution Center courtyard, operated by Winnemucca Chemicals, S.A. de C.V. – Hermosillo, Mexico.

Intermodal shipping containers and ISO tank shipping containers are stored in a segregated part of this Distribution Center. The Winnemucca Chemicals, S.A. de C.V. – Hermosillo Director-Mexico, who controls the storage locations and security access of the facility showed excellent awareness of the need to segregate cyanide from incompatible chemicals such as acids, strong oxidizers, and explosives. Placards and warning signs were posted at the facility notifying workers that cyanide is present, and that open flames, smoking, eating and drinking are not allowed in the area. Personal protective equipment requirements for the material storage are posted outside the cyanide storage area. The location was found to be in full compliance with all ICMC requirements.

The interim storage facility is a fenced in truck parking location within the Distribution Center. The interim storage fenced-in portion of the truck yard is separated physically from other parking areas and has all ICMC required signage. The storage area is locked when in use and access to the area is limited to TSM drivers. Signs clearly show that sodium cyanide is present, and that smoking, open flames, eating, and drinking are prohibited. Signs also show what personal protective equipment is required and that only authorized personnel may enter the area.
The facility is secured by a fence and locked gate. An additional secure area for the cyanide containers has been established within the larger storage yard. Access to the high security area requires heavy equipment and job-specific authorization. Security at the facility was deemed to be acceptable.

Additionally, seals are applied to all loaded and empty trailers to further protect against unintentional and/or unauthorized contact with cyanide.

No other material in addition to cyanide is stored in the Distribution Center. The storage of other materials in the area is prohibited procedurally. Intermodal shipping containers and ISO tank shipping containers and tankers are stored in a segregated part of the facility. The Winnemucca Chemicals Director-Mexico, who controls the storage location and security access of the facility, showed excellent awareness of the need to segregate cyanide from incompatible chemicals such as acids, strong oxidizers, and explosives.

Cyanide is stored on their respective transport vehicles minimizing the potential for contact of solid cyanide with water, there is no handling of cyanide. Sodium Cyanide packages within the intermodal shipping containers are comprised of a bag-in-box construction that offers additional protection against water intrusion. ISO tanks and tankers are sealed and are constructed to be water-tight. The trailers are sealed.

Cyanide is stored with adequate ventilation. All vehicles are parked in the outdoor patio. No intermodal containers are opened or stored indoors where cyanide gas could build up.

Sodium cyanide packages within the intermodal shipping containers are comprised of a bag-in-box construction that offers additional protection against water intrusion. ISO tanks are sealed and are constructed to be water-tight. The tank trailers are not opened at the interim storage area and are only parked for hours or overnight.

Although the requirement for spill containment equipment in this place was not deemed to be necessary, spill containment equipment is maintained in the area. Confirmation was made during the audit that local emergency response resources that are very familiar with Cyanco and cyanide are under contract to provide emergency response support.
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.

☑ in full compliance with

The operation is

☐ in substantial compliance with Transport Practice 3.1

☐ not in compliance with

**Detailed Responses to Practice 3.1 Questions:**

Cyanco has developed and implemented a Global Transportation Emergency Response Plan (GTERP) that is appropriate for its Global cyanide supply chains. The GTERP includes details regarding the response procedures to be used in each region of the world, each mode of transportation, and type of incident. The GTERP was last updated in 2017. The notification numbers are updated every 6 months and the rest of the plan is reviewed annually and updated as necessary.

TSM trucking operations and the interim storage in Hermosillo, have detailed emergency response plans for potential cyanide releases. The plans are appropriate for the transportation routes and interim storage facility. Both plans were found to follow all ICMC requirements. TSM maintains a cyanide manual and procedures document that includes a section on emergency response for cyanide incidents. The emergency response section of the document specifically states what actions are to be taken in the event of a cyanide incident. The document is reviewed and updated, as necessary. The document was found to be up-to-date and appropriate for this liquid sodium cyanide transportation operation.

Emergency response plans were reviewed during this audit. Cyanco’s GTERP considers the physical and chemical form of the cyanide. Both liquid and solid sodium cyanide are shipped using this supply chain. Emergency response procedures address actions to be taken in response to both types of sodium cyanide spills.

All emergency response plans reviewed consider the method of transport, rail or trucking to the final destination.

The TSM operations include truck transport of tanker trailers, ISO tanks and sea containers. The emergency response actions in the emergency plans are appropriate for this type of product and method of transportation and storage. Hermosillo operation of Cyanco includes the cyanide interim storage.
The Cyanco emergency response plans are universally applicable to all types of emergencies and also specifically consider all aspects of responses that may be needed for emergency situations in the rail/truck supply chain.

The TSM operations include truck transport and Hermosillo Distribution Center includes interim storage of tanker trailers and sodium cyanide solution. The emergency response actions in the emergency plans are appropriate for the storage facility, roads and transport infrastructure in Mexico.

The Cyanco emergency response plans includes an appendix showing the engineering design drawings for their top unloading Isotanks, rail tanks and IBS box, among others. The plan considers the cyanide transport by rail, trucks, trailers and sea containers. All plans were found to be appropriate for the mode of transportation involved.

The TSM operations include truck transport, Hermosillo operations include and storage of tanker trailers and sodium cyanide solution. The emergency response actions in the emergency plans are appropriate for this type of transport vehicle.

The Cyanco GTERP includes descriptions of response actions, as appropriate for the anticipated emergency situations. Cyanco also contracts with professional emergency response and remediation firms in the countries into which it ships to ensure that local emergency response is appropriate for the country involved. All of the plans and emergency response information clearly outline the roles and responsibilities of internal and external responders.

In addition to Cyanco internal emergency response procedures, Cyanco contracts with an external emergency response company for emergency assistance. Information was up-to-date and had been shared with relevant parties. All plans were up-to-date and were found to be acceptable.

The TSM emergency response plans are built on the Cyanco emergency response plans. The actions that TSM is to take (primarily secure the scene, notify Cyanco, and contact authorities) are listed in the TSM plans. Additional actions are listed in the Cyanco emergency documentation. The documentation was found to be acceptable for this type of operation.

All the plans for emergency response of Cyanco, TSM and Hermosillo interim storage, clearly outline the roles and responsibilities of internal and external responders. Cyanco has enhanced its emergency response procedures to further detail the roles of outside responders that may be needed for emergency situations in the rail/truck supply chain.
Transport Practice 3.2: Designate appropriate response personnel and commit necessary resources for emergency response.

☑ in full compliance with

☐ in substantial compliance with  Transport Practice 3.2

☐ not in compliance with

**Detailed Responses to Practice 3.2 Questions:**

3.2.1. Does the transporter provide emergency response training of appropriate personnel?

Cyanco has provided emergency response training to transportation partners and ensures that its partners also provide additional emergency response training to their personnel. This confirmation is done through on-site auditing.

TSM drivers, managers, and maintenance shop personnel receive an appropriate level of training to enable them to fulfill their role in emergency response, as well as Hermosillo interim storage personnel. Formal emergency response training is refreshed annually.

The roles and responsibilities of relevant internal and external personnel are clearly described in the Cyanco emergency response plans. Current emergency response procedures state that Technical Advisory Team (TAT) Rapid Response Kits are maintained by emergency response contractors. Information is available regarding the contents of these emergency kits. The types of equipment maintained were found to be appropriate by the auditor.

The roles and responsibilities of relevant internal and external personnel are clearly described in TSM and Hermosillo interim storage emergency response plans. TSM drivers, managers, and maintenance shop personnel receive an appropriate level of training to enable them to fulfill their role in emergency response. Formal emergency response training is refreshed annually.

Current emergency response procedures state that Technical Advisory Team (TAT) Rapid Response Kits are maintained by the emergency response contractors. Cyanco has contractors Heritage and Garner to provide emergency response. Information is available regarding the contents of these emergency kits. The types of equipment maintained were found to be appropriate by the auditor.

TSM drivers and Hermosillo interim storage personnel were interviewed and awareness of emergency procedures was appropriate. The emergency plans defines what equipment must be available in each truck and extra personal protective equipment is available in each bag. Equipment is checked as part of the pre-trip inspection process.
Cyanco ensures through contractual terms and periodic review that the emergency response equipment maintained by its emergency response provider is available at all times.

TSM emergency equipment is checked as part of the pre-trip inspection process. This practice was confirmed through interview and observation.

According to the ERP, all emergency response personnel must complete initial and annual training commonly referred to as 40-hour or "HAZWOPER” training. Cyanco personnel also receive annual training in emergency response. Emergency equipment is maintained by Cyanco’s contracted professional emergency response service providers. Cyanco uses its documented procedures and formal contracts with safety, health, environmental, and security terms and conditions to ensure that cyanide is appropriately handled and transported by its transportation partners.

TSM drivers, management and terminal personnel were interviewed and awareness of emergency procedures was appropriate. TSM drivers receive an appropriate level of training to enable them to fulfill their role in emergency response. Formal emergency response training is refreshed annually. Records were reviewed and were found to be acceptable.

Cyanco ensures through contractual terms and periodic review that the emergency response equipment is inspected and maintained by its emergency response provider is available at all times.

TSM emergency equipment is checked as part of the pre-trip inspection process. This practice was confirmed through interview and observation.

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

- [☐] in full compliance with
- [☐] in substantial compliance with  Transport Practice 3.3
- [☐] not in compliance with

**Detailed Responses to Practice 3.3 Questions:**

The notification procedures, including telephone numbers, are described in the Emergency Response plans. Cyanco information and other emergency contact information is contained in the Cyanco Global Transportation Emergency Response Plan (GTERP). The Cyanco emergency response plans for Hermosillo interim storage include emergency contact information for local emergency responders, hospitals, and governmental agencies.
The TSM Emergency Response Plan lists current emergency numbers for local hospitals, and for ambulance, fire, and environmental responders. The TSM phone list also included up-to-date contact information for Cyanco personnel, regulatory agencies, and potentially affected communities.

The review frequency requirements for each of the other ERPs is documented in the respective plans to ensure that internal and external emergency notification and reporting procedures are kept current. The ERPs are reviewed and updated as necessary, but at least on an annual basis. All notification information was found to be current in all Emergency Response Plans reviewed during the audit.

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

☑ in full compliance with

☐ in substantial compliance with  Transport Practice 3.4

☐ not in compliance with

**Detailed Responses to Practice 3.4 Questions:**

Specific details regarding the remediation, neutralization, decontamination, and disposal of clean-up debris are contained within the Cyanco, TSM and Hermosillo interim storage emergency response procedures. Extensive descriptions of necessary action steps depending on the incident scenario are clearly outlined in the documents.

Cyanco personnel showed a high level of awareness that the use of treatment chemicals is prohibited if cyanide spills into surface waters. Cyanco emergency response procedures specifically prohibit the use of chemicals such as sodium hypochlorite, ferrous sulfate and hydrogen peroxide for treating a cyanide spill into surface water. Section 3.4 of the ICMC Manual specifically bans the use of treatment chemicals for spills into surface water.

The TSM emergency response plan includes text that addresses the remediation and neutralization of cyanide solutions. General information is given, and the hazards associated with using cyanide treatment chemicals are recognized. Neutralization chemicals are not allowed to be used in or near surface water bodies. There are no water bodies near the interim storage facility.
Transport Practice 3.5: Periodically evaluate response procedures and capabilities and revise them as needed.

☑ in full compliance with

The operation is ☐ in substantial compliance with Transport Practice 3.5
☐ not in compliance with

Detailed Responses to Practice 3.5 Questions:

Cyanco periodically reviews its emergency response plans and evaluates the plan’s adequacy. Records were available to demonstrate that Cyanco has held emergency response drills with its transportation partners and client mines covering the recertification period 2015 - 2018.

TSM ERP states it must be updated at least every two years. TSM performs mock simulation drills together with Cyanco and table top emergency response reviews on a regular basis. Driver review of these policies and procedures occur yearly. Procedures and emergency plans are updated as necessary after drills and actual emergencies.

The ICMC Manual requires that table top simulations be run annually and that emergency response drills are run every 3-5 years. Records were available to demonstrate that Cyanco has held emergency response drills with its transportation partners and client mines during this recertification period.

TSM performs mock simulation drills together with Cyanco and table top emergency response reviews on a regular basis. The most recent mock simulation was performed with the participation of 15 Cyanco personnel, 2 from TSM and 4 from Garner. It took place in May 2018 for a trucking accident scenario where the truck with an ISO tank overturned hurting the driver. Opportunities for improving were analyzed.

Cyanco reviews and revises its emergency response plans as necessary after responding to an actual emergency and after emergency response drills. Formal action-tracking systems are used to ensure timely and complete close-out of actions following emergency response drills and actual emergencies.

According to the TSM cyanide manual, procedures and emergency plans are updated as necessary after drills and actual emergencies. Evidence was available to demonstrate that a full drill critique was done after the May 2018 drill. An “After Action” report was developed, and formal corrective actions were opened for the improvement opportunities noted during the drill.
Ferromex Rail Carrier and Rail Yard – Due Diligence Information

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.

The management of Bulk Rail Transport using Ferromex is:
- ☑ consistent with Transport Practices 1.1-1.6
- □ substantially consistent
- □ not consistent

Summary of the basis for this finding:

Cyanco rail shipments originate from the Cyanco Winnemucca and Alvin production facilities. Bulk sodium cyanide solution and solid is transported via rail cars to the U.S./Mexican Border using the Union Pacific Railroad (UP), which is included in the Cyanco N.A. Rail and Truck Supply Chain. Rail shipments cross the U.S./Mexican border at Nogales, Arizona where they are under the control of Ferromex and are then routed to the Cyanco Hermosillo Distribution Center. Security and safety risks are minimized through the use of the shortest possible transit time for the shipments. There are no other choices of rail partners for this rail move as the railroad companies own the track that is used.

The railroads maintain control over routing and employ specific safety measures to ensure the safest transit of hazardous materials possible. Ferromex maintains formal safety and environmental programs and reports regularly through its parent company GrupoMexico. The UP railroad has been a certified Responsible Care® Partner companies for more than a decade. As such, their rail management system, including rail yards and interchange point safety and security, has been audited by a 3rd-party auditing firm and has been found to be suitable and effective.

The Nogales rail yard has high security due to its proximity to the U.S./Mexican Border. U.S. Regulations impose very specific requirements on railroads regarding the safe and quick transport of hazardous materials. Railroads are required to perform vulnerability risk assessments on their routes and rail yards and hazardous material rail cars are technically never allowed to be unattended. This requirement means that hazardous material rail cars are moved quickly though interchange yards. Special precautions are taken by the rail carriers to ensure that the cars can always be located and that they are never stored in rail yards for any length of time longer than required. During this Due Diligence Review it was confirmed that the Ferromex railroad has formal environmental and safety programs.
Cyanco ensures that rail cars are suitable for cyanide shipments when they leave the Winnemucca Plant. The UP and Ferromex perform the maintenance on rail cars using only authorized rail maintenance facilities. The proper maintenance of rail equipment is heavily regulated and inspected by the U.S. Federal government, which also helps to ensure fulfillment of rail equipment preventive maintenance and inspection requirements.

Cyanco tracks cyanide rail cars extensively using a number of different tracking methods and technologies. Tracking information was verified during the audit. Shipping information was reviewed during this Supply Chain audit. Accurate descriptions were available showing the type of material, the weight of the shipment, and the shipping and arrival information. Confirmation was made that seal numbers are recorded on the bills of lading and other shipping papers. This enables personnel along any portion of the segment to confirm that the containers have not been opened. When the Cyanco facility receives the product, the seal numbers are verified.

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.

The management of Bulk Rail Transport using Ferromex is: ☑ consistent with Transport Practice 2.1
☐ substantially consistent
☐ not consistent

Summary of the basis for this finding:

There is no planned interim storage of cyanide on the rail segments. Trans-shipping depots and rail yards are maintained by the railways. A review of shipping records confirmed that hazardous cargo is moved from point to point as quickly as possible and that personnel have received training in the segregation of hazardous materials.
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 management of Bulk Rail Transport using Ferromex is:

- ☑ consistent with Transport Practice 3.1-3.5
- ☐ substantially consistent
- ☐ not consistent

**Summary of the basis for this finding:**

Cyanco (Producer) provides shipping papers showing the emergency contact information which is then transferred to the hazardous cargo declaration.

Cyanco (Producer) offers immediate technical assistance through its contracted emergency response service providers for any cyanide spill and offers emergency resources for spills that might occur near a Cyanco site. Cyanco contracts with CHEMTREC to ensure that appropriate notifications and emergency response is initiated if there is an incident. Cyanco also maintains emergency response equipment and trained personnel to assist in the event of a cyanide emergency.

Cyanco contracts with multiple organizations to ensure that appropriate notifications and emergency response (including remediation) is initiated if there is an incident on any rail or truck movement.

Cyanco and its emergency response service providers would lead any remediation efforts involving cyanide. No information regarding this requirement was investigated for Ferromex.

GrupoMexico reports that Ferromex maintains a formal safety program and environmental management system, which includes emergency response preparedness.
Port of Guaymas – Due Diligence Assessment

The Port of Guaymas is located at the southern end of the Mexican State of Sonora. Sonora is on the Northwest Coast of Mexico, approximately 117 km south of Hermosillo, Sonora.

Solid sodium cyanide is received at the Port of Guaymas in sea containers, stored for a short time (no more than three days), and is picked up by TSM. The port was audited by MSS in 2014 and a Due Diligence Assessment of the operation was performed on-site by Cyanco personnel again on March 8, 2018. The results of the on-site assessment found that all ICMC requirements were fulfilled and that the port continues to be suitable for the receipt and handling of cyanide shipments.

The Port of Guaymas has been in operation for hundreds of years and has been in commercial use since the 1800s. The Port of Guaymas is considered to be a medium sized full-service seaport with a sheltered harbor. The port has been included in an ICMI Cyanide Code certified supply chain since 2012.

Port of Guaymas - The Port of Guaymas was found to be suitable for the receipt and dispatch of solid sodium cyanide transported in sea containers. The port is authorized to receive Dangerous Goods. The port maintains a management system that conforms to ISO 14001, ISO 9001, and ICMI Cyanide Code requirements.

The Port is certified to the International Ship and Port Facility Security (ISPS) Code. The International Ship and Port Facility Security (ISPS) Code was enacted in 2004 through an amendment process under the Safety of Life at Sea Convention in 2002. The concept of the ISPS Code is to provide layered and redundant defenses against smuggling, terrorism, piracy, stowaways, etc. The ISPS Code requires ships and port facilities engaged in international trade to establish and maintain strict security procedures as specified in ship and port specific Port Facility Security Plans.

Port personnel have experience with handling sodium cyanide and this cargo is currently handled at the port. The Port initially implements an ICMI Cyanide Code-conformant management system in 2012 as part of another Supply Chain certification process.

The sea containers are not opened, and no specialized personal protective equipment is necessary at this location. The Port is fenced and manned at all times. The designated outdoor cyanide storage area is separated from other areas to ensure that the cyanide is not stored next to incompatible materials.