



**CyPlus Idesa**

TRANSLOADING TERMINAL AND WAREHOUSE AT  
CIUDAD OBREGON

# SUMMARY AUDIT REPORT

FOR THE  
INTERNATIONAL CYANIDE MANAGEMENT CODE

NOVEMBER 2022



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## Table of Contents

<b>Operation General Information .....</b>	<b>2</b>
<b>Operation Location Detail and Description.....</b>	<b>2</b>
<b>Auditor’s Finding .....</b>	<b>6</b>
<b>Auditor Information .....</b>	<b>6</b>
<b>Auditor Attestation .....</b>	<b>6</b>
<b>Production Verification Protocol .....</b>	<b>7</b>
<b>Principle 1   OPERATIONS .....</b>	<b>7</b>
Production Practice 1.1 .....	7
Production Practice 1.2 .....	9
Production Practice 1.3 .....	12
<b>Principle 2   WORKER SAFETY .....</b>	<b>14</b>
Production Practice 2.1 .....	14
Production Practice 2.2 .....	17
<b>Principle 3   MONITORING .....</b>	<b>21</b>
Production Practice 3.1 .....	21
<b>Principle 4   TRAINING .....</b>	<b>23</b>
Production Practice 4.1 .....	23
Production Practice 4.2 .....	25
<b>Principle 5   EMERGENCY RESPONSE .....</b>	<b>27</b>
Production Practice 5.1 .....	27
Production Practice 5.2 .....	29
Production Practice 5.3 .....	30
Production Practice 5.4 .....	32
Production Practice 5.5 .....	33
Production Practice 5.6 .....	34

## Operation General Information

Name of Production Facility:	CyPlus Idesa S.A.P.I. de C.V. - Transloading Terminal and Warehouse at Ciudad Obregon
Name of Facility Owner:	CyPlus Idesa S.A.P.I. de C.V.
Name of Facility Operator:	CyPlus Idesa S.A.P.I. de C.V.
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## Operation Location Detail and Description

CyPlus Idesa S.A.P.I. de C.V. (CyPlus or CyPlus Idesa) is a joint venture founded in 2013 between Germany's Evonik and Mexico's Grupo IDESA. Since the beginning of production in 2016 in Mexico, CyPlus Idesa has supplied sodium cyanide to the mining industry with the support of CyPlus GmbH, which has more than 60 years of experience producing cyanide in Europe.

As of August 2019 CyPlus GmbH is part of Röhm Group, a 100% subsidiary of Advent International. Founded in 1984, Advent International is one of the largest global private equity investors.

The company's sodium cyanide plant is located in Coatzacoalcos, Veracruz. It is the only sodium cyanide plant in Mexico and its strategic location ensures the uninterrupted supply of cyanide to all mining units across the country.

The company complies with all safety and environmental regulations to ensure that the production and transportation of sodium cyanide is carried out in accordance with the International Cyanide Management Code (ICMC).

CyPlus Idesa produces solid sodium cyanide in briquettes which is delivered in two types of packaging. Solid sodium cyanide is packed in United Nations (UN)-approved big bags in wooden



boxes as one-way box or returnable box with a capacity of 1 ton each,. The UN mark is an international system created by the UN to provide standards for the classification, packaging, marking and labeling of dangerous goods so when transporting any hazardous material, the packaging grants safety in all modes of transport. CyPlus Idesa uses high-quality packaging to ensure the safest storage and transportation of cyanide.

The sodium cyanide offered is exclusive for mining customers; therefore, it is produced and delivered according to mining needs. Among its benefits is that production is local and customers are supplied directly, without any distributor; the supply chain is certified by the ICMC; and it is customized, fast and the most flexible in the Mexican market.

CyPlus Idesa developed a complete safety program that is offered to mining customers according to their needs. This ensures a high degree of safety and care for the environment. However, the company also owns solid infrastructure to support an emergency response plan in case of an eventuality.

CyPlus Idesa - Transloading Terminal and Warehouse at Ciudad Obregon (or CDO by its acronym in Spanish referring to the Obregon Distribution Center), operates de CDO.

The activities that take place within the CDO are:

- Reception and storage of solid sodium cyanide in briquettes packed in one ton Intermediate Bulk Containers (IBCs).
- Transloading operation from IBC to isotankers.
- Dispatch of IBC with sodium cyanide in maritime containers with trucking companies and sodium cyanide briquettes in isotankers.

The warehouse receives trucks loaded with maritime containers from Cyplus Idesa Production plant, containing solid sodium cyanide in Intermediate Bulk Containers (IBC) which are deconsolidated at the entrance ramp of the warehouse using a forklift which deposits the IBC inside the warehouse in a covered reception area. For cyanide dispatch in the same way, the boxes are removed from the cyanide warehouse by means of the forklift which moves de IBC to the truck transporter in maritime containers or to the transloading facility to isotankers (the Solid-to-Liquid System known as the SLS), is inside the warehouse .

The facility is located in the Industrial Park of Ciudad Obregón, Sonora, Mexico. It has sufficient vehicular access for the movement and maneuvers of the cyanide delivery trucks. Around the warehouse there is a warehouse of fertilizers and another of grains, as well as a property for parking lots of trailers.



No streams or rivers are located on the site, the project site has several attributes that cushion extraordinary rainfall events. Both the north and east access of the winery have paving and storm drainage, as part of the infrastructure of the Industrial Park of Ciudad Obregón. The finished floor level of the facilities rises above the natural terrain, as well as the trailer platforms, this reduces the risk of flood damage, leaving only the vehicle parking area exposed.

A flood event to the property would occur only if there were an avenue that exceeds the capacity of the rain protection work, which is very unlikely, given that it has great hydraulic capacity. The Industrial Park has an artificial work of interception and channeling of the runoff with sufficient hydraulic capacity to conduct expenses that are generated in the rainy season in this sector.

The Distribution Center consists of two warehouses that are completely joined by a corridor. The spaces of both warehouses are very spacious, the ceilings are quite high and have security devices such as fire extinguishers, video cameras, ventilation, smoke detectors, as well as a temporary hazardous waste warehouse and a transfer area.

The warehouse has areas for reception, storage and transfer of sodium cyanide (SLS). The reception of cyanide is carried out at the front of the ship by means of trailers which are placed in an orderly manner for unloading and then store the products in previously established areas.

#### **Cyanide storage area:**

This is received in IBCs containing hermetically sealed polypropylene super sacks, which have 4 ears for handling. This super sack contains inside another polyethylene super sack, which is also sealed. The capacity of these bags is 1,000 kg of product, the raw material (sodium cyanide) that is received, arrives in a presentation of briquettes. These super sacks are located inside a wooden box that comes strapped and properly documented for transportation. The storage is located inside the warehouse (indoors) and can be stowed up to a maximum of 4 boxes.

#### **Product Unloading and Loading Area:**

The area is located at the foot of the sodium cyanide storage hold, so the unloading of the truck is done using a forklift. The loading is also carried out by means of a forklift, transporting the 1-ton wooden boxes a short distance from their storage area to the truck that will transport the ordered product.

#### **Maneuver Yard:**

This has an access control and enough space to maneuver the automotive loading units, considering that only one loading or unloading is carried out per maneuver.



**Administrative Services Area:**

The facility includes an area for administrative services, where basic office activities, archive, electronic equipment, electronic boards and sanitary services for administrative staff and visitors are concentrated, all in accordance with municipal regulations.

**Transfer Area to Isotankers (Solid-to-Liquid System known as the SLS):**

Cyplus Idesa also supplies the product through isotankers, with the content of 16 boxes of 1 ton each. To achieve this, the contents of the boxes are passed to these transports by means of the SLS. To achieve this, the polypropylene super sack is removed from the box by means of a forklift, inserting the nails of this into the four ears of the bag.

The forklift takes the super sack to the SLS. Once the bag is positioned, the cord that comes in its lower neck is untied so that the briquettes begin to flow from the hopper to the conveyor chain and begins to fill at the man entrance of the isotanker, as established by the transfer procedure.

Once the briquette is transferred, both the super sack and the wooden box are disposed of as hazardous waste. The collection of hazardous waste is located in the second warehouse of the workplace.

Cyplus Idesa Transloading Terminal and Warehouse in Ciudad Obregon, was ICMI (International Cyanide Management Institute) last certified on September 11, 2019. This re-certification audit of the CyPlus Obregon warehouse and transloading operations was conducted as part of the ICMI process that calls for each ICMC certified operation to undergo a third-party re-certification audit every three years. The audit was conducted using the ICMI Cyanide Production Verification Protocol from June 2021.

The auditor found that the overall level of preparedness and understanding of ICMI Cyanide Code requirements was satisfactory. Management systems were found to be implemented; personnel demonstrated operational discipline. The facility was well maintained and organized, and records were readily available for review.



## Auditor's Finding

This operation is

- in full compliance**
- in substantial compliance
- not in compliance

with the International Cyanide Management Code.

This facility was determined to be in FULL COMPLIANCE with the International Cyanide Management Code.

This operation has not experienced any compliance issues during the previous three-year audit cycle.

## Auditor Information

Audit Company: BP Cyanide Auditors S.A.C.  
Lead and Technical Auditor: Bruno A. Pizzorni  
Dates of Audit: June 7 and 8, 2022

## Auditor Attestation

I attest that I meet the criteria for knowledge, experience and conflict of interest for a Cyanide Code Certification Audit Lead Auditor, 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 Cyanide Code Auditors.

I attest that this Summary 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 Cyanide Production Verification Protocol and using standard and accepted practices for health, safety and environmental audits.



## Production Verification Protocol

### Principle 1 | OPERATIONS

Design, construct and operate cyanide production facilities to prevent release of cyanide.

#### Production Practice 1.1

*Design and construct cyanide production facilities consistent with sound, accepted engineering practices and quality control/quality assurance procedures.*

The operation is  in full compliance with  in substantial compliance with  not in compliance with Standard of Practice 1.1

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

As indicated in the Detailed Audit Report (DAR) for the initial certification audit performed in July 2012 to the CyPlus Supply Chain in Mexico, which included the Obregon warehouse, control and quality assurance (QC/QA) programs were implemented during the construction of the cyanide warehouse and transloading installations. This Principle was found in compliance and since then no changes in the installations or process have been done.

Cyplus warehouse has been professionally designed and constructed to prevent and minimize the risk of a cyanide release. Building floors and walls provide impermeable barriers to potential releases, forklifts used to move and store cyanide Intermediate Bulk Containers (IBC) are appropriate for handling and storing containers IBC.

The warehouse is constructed with concrete floor, block and sheet metal walls, and sheet metal roof. The design of the warehouse was performed by a certified engineer and included the requirement of performing concrete resistance test. As reported in the 2012 DAR, laboratory tests were performed and the results were above the minimum resistance established in the design. The transloading installations was in the final stages of commissioning at the CyPlus Obregon site, known as the SLS project.

The design and construction of the SLS project has been done by formal engineering companies. The main components of the system satisfy the requirements of European and International Standards Organization (ISO) guidelines and standards, among others. These components have been declared in compliance of the applicable Directives or Regulations as separated components of a system.

Records demonstrating the implementation of quality control and quality assurance (QC/QA)





programs during construction of these facilities, including QC/QA records for the racking system and as-built drawings stamped by a certified professional engineer were available for the auditor's review. Construction records also include documents with a sign-off by the construction engineer that the facilities have been built in accordance with the design specifications and drawings. Records of the review and approval of the facility's design (building permit) and construction (declaration of manufacture) issued by the Mexican regulatory agency were also available to provide evidence of compliance with this Production Practice.

The materials used in the construction of the warehouse are appropriate for the use of the facility. There are no solutions used in this operation, there is only solid sodium cyanide. The warehouse and transloading areas have concrete floors. There are epoxy sealed joints in the floors.

The SLS components of the system were declared in compliance in the initial certification audit in July 2012, which states that according to the documents reviewed on the occasion, the design of the system was done considering that cyanide was to be handled

The SLS system has an interlock system to prevent overfilling of the isotankers.

The area where the SLS system has been installed as well as the cyanide warehouse has a concrete floor in good shape. The floors are constructed with a concrete slab, waterproof, non-absorbent, washable and non-slip materials; with crack-free finishes and are easy to clean and disinfect. Handling and storage of IBC packaged solid cyanide at the warehouse operation is conducted on a concrete impermeable surface.

The auditor inspected Cyplus warehouse and confirms that concrete surfaces are intact and do not have cracks that compromise their ability to contain released cyanide.

The facility employs the interlock system to prevent overfilling of the isotankers. This system is inspected, tested and maintained. Also, the ditch to collect wash water from the SLS area has an overfilling control.

The warehouse floor serve as sufficient secondary containment for stored IBCs. There is no cyanide solution involved in this operation. The warehouse and transloading operations are built on concrete with curbing which provides a competent barrier to leakage.

The area where the SLS system is installed has berms and dikes to contain potential spilled. Additionally, the isotanker is cleaned prior to its filling, the resulting solution is sent to two tanks of 2.5 m<sup>3</sup> each, located inside a concrete secondary containment with net containment capacity of 6.43 m<sup>3</sup>, this is larger of the volume of both tanks. The auditor reviewed the calculations of the volumes of the tanks as well as the net capacity of the secondary containment, verifying that these is in compliance. Compliance with this provision was also



determined through the auditor inspection of the facility and review of construction and maintenance records.

There are no solution pipelines at the warehouse.

The warehouse receives cyanide in closed wood boxes packaged in polypropylene bags which protect the product from the air-environment moisture. Boxes are 1 ton capacity and are stored on concrete floor in good conditions to prevent contact with water. Cyanide warehouse is constructed with concrete and sheets metal walls, concrete floor, sheet metal roof. The surfaces adjacent to the warehouse are graded away from the warehouse to prevent ponding of water near the walls. The safety shower near the cyanide storage area is designed such that leaks will not come in contact with cyanide containers.

Solid cyanide in wooden boxes is stored in the warehouse with adequate ventilation. The warehouse is equipped with a forced ventilation system consisting of air ventilation units installed along the warehouse roof. In addition to the ventilation units, large roll-up doors are available for increased air flow that prevents the build-up of cyanide dust and hydrogen cyanide gas. Adequacy of ventilation was confirmed through visual confirmation.

The facility is within a locked area with restricted access. Security guards are present 24 hours a day, 7 days a week. Gates are kept locked. Visitors must sign in upon entry. Access to the unauthorized personnel is prohibited. CyPlus Obregon keeps a record of all site personnel and subcontractors that access to the cyanide warehouse. The warehouse is monitored by closed TV circuit.

Cyanide is separated of incompatible materials as is the only product stored.

### Production Practice 1.2

*Develop and implement plans and procedures to operate cyanide production facilities in a manner that prevents accidental releases.*

- ✓ in full compliance with
- The operation is  in substantial compliance with Standard of Practice 1.2
- not in compliance with

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

The warehouse operation has extensive operational procedures maintained by the CyPlus Obregon warehouse specifically for this operation. Procedures and regulation include description of activities, safety measures and personal protective equipment required during



routine activities. There are written procedures for unloading, loading, handling containers IBC's of cyanide, as well procedures for the transfer of sodium cyanide to isotankers and for managing any contaminated materials. The procedures describe how cyanide containers and contaminated materials are managed in a safe and environmentally sound manner that prevents cyanide releases and exposures.

The auditor review the facility's written operating plans and procedures to confirm that they address the safe management of cyanide.

Implementation of procedures for Reception, Handling and Storage of Chemicals was confirmed through observation of these activities, as during the site visit the auditor observed on consecutive days, the arrival of 20 feet maritime containers loaded with sodium cyanide IBC's which were being discharged and according to the written procedure. The auditor also had interviews with the personnel responsible for performing these tasks, and reviewed the available documentation, finding it in conformance.

The operation management system includes contingency procedures for non-standard operating situations. Among others, procedure PSP- 90015 Procedure on Acting in Case of Emergencies and PSP- 90002 Procedure in Case of Cyanide Exposure that detail contingency measures to be implemented if there is an upset in any activity that may result in cyanide exposures or releases. The first procedure for emergencies includes actions in case of releases such as leaks, spills, and fires. Evacuation of the warehouse is also addressed. Spill kits and equipment are located in several locations in the warehouse. The second procedures addresses worker exposures to cyanide and specifies the actions to be taken by the first person on the scene, the warehouse manager, and the brigade. Cyanide first aid procedures are also included.

The operation also include contingency actions in the standard operating procedures such as damage to a cyanide box on arrival inside a damage sea container, during handling cyanide boxes.

The warehouse operation facility has a formalized procedure for managing of changes (MOC) to the facility, PSP-90021 Management of Change CDO. The procedure, which is applied before new projects or equipment be installed on site, requires to conduct a risk analysis before changes in procedures or equipment is done. States to identify changes to the facility or its operating practices that may increase the potential for cyanide releases and adverse impacts on worker health and safety before such changes are implemented so that they can be evaluated and addressed, as necessary. The procedure requires written notification to environmental, health and safety personnel and a sign-off before the change can be instituted.

Verification was through a review of the procedure as well as completed forms F-PE-RD-P-005-



001 Format for Change Management from April 2022. It was required due to the change of place of the temporary storage of hazardous waste, for reasons of space. A larger warehouse is required. The MOC was signed off by environmental and health and safety personnel.

CyPlus Obregon warehouse has a Preventive Maintenance Program, the procedure PSP-97103 Machinery and Equipment Maintenance and several checklists for the two forklifts, the SLS system, isotankers, air extractors, dock levelers and product receiving/delivering activities. isotankers maintenance is done at Salina Cruz. No sea container maintenance is the responsibility of the warehouse. Maintenance activities are recorded in an electronic log. The operation inspect and maintain all concrete for cracks, cleans out trenches and check sumps and sump pumps. The frequency of the different preventive maintenance activities is scheduled in the Preventive Maintenance Program and documented. The type of maintenance corresponds to the equipment and machines of the facility. Maintenance records were available for review covering the recertification period and were acceptable.

There is no process equipment in use at the warehouse that requires calibration.

The procedure PSP-97109 Washing Machinery, Equipment and Water Management has been implemented to prevent unauthorized or unregulated discharge to the environment of any cyanide solution or cyanide contaminated water that has been collected in a secondary containment area. The only potential cyanide solutions generated at the warehouse are the isotanker washdown water, equipment decontamination water, and clothes washing water all of which are stored two 2.5 m3 tanks . Any solution found in the secondary containments where these tanks are installed, would be pumped back to the tanks. According to the written procedure, these tanks are periodically emptied to transfer the water to reinforced bins (IBC) each 1,000 liters capacity to mine sites for its adequate final disposal.

The SLS project area has berms and dikes to contain potential spilled liquids. Water collected from the berms and dikes is discharge to the plastic tanks mentioned above.

The facility has implemented and developed the procedure PSP-90064 Solid Waste Management which indicates how to proceed with potentially contaminated solids with cyanide are wooden box parts, polypropylene bags, used Tyvek suits, and other used personal protective equipment (PPE). The material is stored in a fenced hazardous waste area within the warehouse while awaiting shipping. CyPlus ships these materials to a hazardous waste management provider in either Queretaro or Hermosillo. Records of waste shipments were available and were found to be acceptable. The entity contracted to dispose of contaminated



waste has procedures that include language specific to decontamination, management, and disposal of cyanide-contaminated materials, including the ultimate destination of any disposed material.

CyPlus produces solid cyanide at its plant in Coatzacoalcos, Mexico, the cyanide passes through a single jurisdiction to and from the warehouse (i.e., Mexico). Boxes are labelled in three languages at the plant using UN 1689 and maritime contaminant signaling for each package. Isotankers and sea containers are permanently labelled with similar signage. Packaging is checked at the time of reception at the warehouse according to the written procedure PSP-97104 Reception, Handling and Storing of Chemicals Products and checklist. The procedure was in place to confirm that labeling and packaging has not been compromised when it is shipped to customers. Records were complete and readily available.

### Production Practice 1.3

*Inspect cyanide production facilities to ensure their integrity and prevent accidental releases.*

The operation is  in full compliance with  in substantial compliance with  not in compliance with Standard of Practice 1.3

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

The facility is operated as a dry facility and has only a limited number of tanks, valves, pipelines and containments requiring inspection. These consist of a sump, pump, and pipeline for washdown water from the transloading area to two 2.5 m<sup>3</sup> tanks inside a secondary containment. These components are regularly inspected as programmed in an annual preventive maintenance plan.

The facility has implemented procedures to conduct routine inspections to its installations: PSP-97103 Machinery and Equipment Maintenance and PSP-97102 Inspections and Cleaning of the Installations. The cyanide warehouse operators perform daily inspections to detect potential risks and warehouse damages. The workers were knowledgeable regarding the aspects that could present a treat and that they have to notify them to the site manager.

The auditor reviewed inspection records of the loading and unloading areas, SLS installations, and cyanide storage areas. Documentation is retained and was available for the auditor's



review demonstrating that inspections have been conducted, that they have been focused on the identification of releases and on the elements critical to the prevention of releases and exposures, and that necessary clean-up measures and maintenance and repairs are made in a timely manner when deficiencies are identified. The operation inspects the containers used for transportation, as appropriate. The inspection forms provide sufficient detail regarding what to look for or what condition is acceptable. The auditor's inspection of the facilities confirmed evidence the facility's inspections are identifying potentially hazardous conditions.

Cyplus Obregon warehouse performs inspections on an established frequency sufficient to assure and document that they are functioning within desired parameters. Inspections are completed at frequencies varying from daily, monthly, semi-annual, and annual depending on the item being inspected. The SLS system is inspected on a weekly basis. Inspections include the warehouse, emergency response equipment and materials, monthly review and registration of extinguishers, pre-operational inspections before operations involving cyanide handling, and inspections of the documentation, boxes and transportation equipment.

The auditors observed examples of sufficient completed forms and spreadsheets covering the recertification period to confirm that Cyplus Obregon conducts the inspections on a regular basis.

The facility inspection and maintenance records are documented and include the date of the inspection, the name of the inspector and any observed deficiencies. The nature and date of corrective actions are documented in the inspection records. The auditor reviewed this information, verifying that this information is recorded. Records are retained in hard copy covering the recertification period and were acceptable.



## Principle 2 | WORKER SAFETY

Protect workers' health and safety from exposure to cyanide.

### Production Practice 2.1

*Develop and implement procedures to protect facility personnel from exposure to cyanide.*

The operation is  in full compliance with  in substantial compliance with  not in compliance with Standard of Practice 2.1

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

The operation's management system discussed in Production Practice 1.2 address all aspects of the operation (reception, storing and dispatching of cyanide), that are necessary for protection of workers. This includes inspection programs for the cyanide warehouse and its preventive maintenance programs for critical equipment, during normal operations, for non-routine and emergency operations, and maintenance related activities. the operation has developed procedures to minimize worker exposure during maintenance-related activities, such as decontamination of equipment, prior to its maintenance, which has been in contact with cyanide. The same procedures, manuals, plans and programs explicitly address the related safety issues as they describe safe practices. The level of detail in these procedures is adequate with the risks involved with the task. These documents include statements for use of personal protective equipment and for pre-work inspections, as appropriate and necessary for the operation. Pre-work inspections are required for cyanide reception and dispatch operations. Use of personal protective is addressed in the procedures, safety training programs and in signs posted in specific work areas where cyanide is present.

Pre-work inspections are typically focused on safety and operational issues and documented in inspection. The operation has also procedures in its emergency response plan, describing the specific steps necessary to decontaminate emergency response equipment which could have been in contact with cyanide. The auditor reviewed these procedures confirming they describe safe work practices and are implemented, through employee interviews and observation.

The operation has diverse methods for getting employee input regarding its health and safety procedures and considers this input in developing and evaluating its procedures. They have



regular Monday meetings, formal monthly safety and training meetings. Operators participate in the development and roll-out of procedures that define the steps, documents, inputs/outputs, and environmental, health and safety aspects for five activities: Receipt, Storage, and Shipping, Transfer, and Waste Management for Chemicals. The auditor reviewed this process and attendance lists to verify compliance. The facility has a suggestion box to receive worker's feedback. During monthly internal training sessions, workers have space to interact with their instructor, the operation ESHQ Manager, regarding improvement in work procedures, among others. Interviews were held and indicated that the operational and safety procedures are subject of improvement by operators and supervisors. Employee participation in the development and maintenance of safety practices was found to be acceptable.

The facility has a study on air quality monitoring for the cyanide warehouse from July 2013. Monitoring activities were performed during transloading activities at bags emptying area, ISO platform and dust collector area. No activities have been identified as having elevated HCN or cyanide dust levels. As required by the Mexican regulation NOM-010-STPS-2014, CyPlus contracts to a consultant to perform indoor air analysis for HCN, cyanide dust, and carbon monoxide every two years. Consultant reports from 2016 and 2018 verified that HCN and cyanide dust levels were below regulatory action levels for worker exposure. CyPlus does, however, require that operators wear personal protective equipment such as HCN monitors, chemical suits, boots, gloves, and goggles at all times. Operator interviews indicated that there are no activities where the HCN monitors show re-occurring unsafe working conditions. In case of emergency, additional PPE includes Tyvek suits and Self-Contained Breathing Apparatus (SCBAs).

The facility uses personal (portable) monitoring devices when working in unloading and loading activities to confirm that safe working conditions exist and that cyanide levels are below 4.7 ppm. Typical warehouse activities, such as unloading or loading boxes of cyanide, have low potential to generate dust or hydrogen cyanide gas (HCN). However, the transfer of briquettes from the boxes to isotankers with the transfer machine does have a higher potential to generate dust, but as it is a dry process, there is low potential to generate HCN. Nonetheless, CyPlus has provided workers with five portable HCN monitors to wear during warehouse activities. The alert level is set at 4.7 parts per million (ppm) and the alarm level is set at 10 ppm. An alert result in reporting to the warehouse supervisor, investigating the cause, and ventilating the area with a large moveable fan. An alarm results in warehouse evacuation.

To verify compliance, the auditor observed workers wearing these monitors and reviewed checklists for tracking the use and maintenance of the monitors. Operators demonstrated good awareness of the control set points and indicated that they would leave the area if HCN





monitors were alerting them to unsafe work conditions.

Cyanide monitoring equipment are maintained, tested and calibrated as recommended by the manufacturer. Records of these activities are retained and were available for review by the auditor. All calibration records for the hydrogen cyanide gas monitors have been retained during this certification period of three years. The auditor found these calibration records available for the last three years as well as for years prior to this recertification period. CyPlus has maintained, tested, and calibrated the HCN monitors every six months as recommended by the manufacturer. The monitors are calibrated by a laboratory accredited by the Mexican Entity for Accreditation (EMA, by its acronym in Spanish). Calibration records included the actual calibration information indicating that the equipment calibration was completed.

The procedures for the warehouse require that a buddy system be used. Workers carry radios and cell phones for communication. The radios are equipped with a man-down button for emergencies. In addition, there is 24-hour per day video surveillance inside and outside the warehouse. The auditor reviewed procedures and observed workers during the site visit to verify compliance.

CyPlus, as part of their corporate policy, requires annual occupational health examinations for the warehouse workers to assess their fitness to perform specified tasks. Operators have a medical exam when they are hired and then annually thereafter. The exam includes checking blood pressure, heart function, vision and a general fitness for duty. Workers are semiannually tracked to ensure they follow the medical exam indications. According to Mexican regulations for medical exams confidentiality, examination records for all laborers are kept by the doctor uncharged at San Jose Hospital. Through interviews to workers and supervisors the auditors confirmed they had their periodically medical exams during the recertification period..

The facility has a procedure to ensure that individuals working or visiting the facility do not leave the site with cyanide on their clothing. All warehouse operators must change clothes before entering the warehouse areas and this clothing is left on site when they leave, so that it can be washed. The procedure LSP- 90011 Instructive to Clean Working Clothes, address employees must change clothes upon leaving the operational area. They remove any clothing that has potentially been in contact with cyanide after cargo handling operations. Visitors are escorted at all times. Operators wash their working clothes in the changing area where the facility has washing and drying machines installed. When the washing machine is being used for work clothes, a drain valve is switched to send the wash water to the 2.5 m<sup>3</sup>tanks.. The auditor observed the change room with lockers and the dedicated washing and drying machines for work clothes to verify compliance.



The facility has placed legible signage throughout the cyanide operation area as necessary to ensure that all workers who may be exposed to cyanide are aware of the risks and take appropriate protective measures. Workers are alerted to the presence of cyanide and the need for appropriate personal protective equipment. The auditor verified compliance by observation of signage around the facility, interviews with site personnel and review of the overall safety and training programs regarding to cyanide safety.

The facility prohibits smoking, eating, drinking and having open flames in all areas of the warehouse where cyanide is present. The prohibition is included in the operation's safety training and is re-enforced by signage in these areas. The auditor reviewed the training plans and records, interviewed the employees and observed on site signage throughout the facility finding this in compliance with this provision. Employees showed particularly good awareness of the restrictions and of the potential dangers of not following the rules. Signs that explain these prohibited activities are at the entrance to the cyanide warehouse and the unloading areas.

## Production Practice 2.2

*Develop and implement plans and procedures for rapid and effective response to cyanide exposure.*

The operation is  in full compliance with  in substantial compliance with  not in compliance with Standard of Practice 2.2

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

CyPlus maintains a comprehensive Emergency Response Plan (ERP), and crisis management for rapid and effective response to cyanide exposure. The Procedure in Case of Cyanide Exposure covers the process that is to be followed in the event that cyanide is ingested, skin or eye contact made, and/or inhaled. The cyanide antidote procedure is also detailed. The ERP addresses transfer of exposed victims to a medical center. The ERP is available for a medical emergency responder and the antidote response kit was properly stored. The ERP is specifically suited for the facility.

Safety showers, eye wash stations and fire extinguishers are available near areas of the warehouse where workers may be exposed to cyanide. Two combination shower / low-pressure eye wash stations are in use at the facility, located inside the warehouse. These are designed,



constructed and maintained to minimize the potential for water to come into contact with cyanide containers or cyanide released from containers during handling. Water supply is from the city network. To ensure the availability of water in case of failure from the city network, each station has an elevated tank for water reserve. The eye wash and emergency showers are tested daily. The facility has several non-acid fire extinguishers located at strategic locations throughout the facility. Both shower / low-pressure eye stations and fire extinguishers are inspected regularly. Inspection / testing records were reviewed and were found to be complete.

The auditor inspected the operation confirming that emergency showers, low pressure eye wash stations and dry powder nonacidic fire extinguishers are available where they may be needed and tested the emergency showers confirming they are functional. The auditor found the eye wash stations finding pressure was too high. The operation was required to regulate the pressure to have of low-pressure water flow. After the audit Cyplus send pictures showing the eye wash station confirming that they are in good working order and that they operate with low water pressure. No additional information was required to find this item in full compliance.

Maintenance and inspection records were available to confirm that this safety equipment has been routinely evaluated to ensure it is available when needed.

The warehouse has water, oxygen, resuscitation equipment, cyanide antidotes, and communication devices readily available. There are two oxygen tanks, an automated external defibrillator (AED), and two types of antidotes: sodium nitrite and sodium thiosulfate. The warehouse has an AMBU (Airway Mask Bag Unit), a device using positive pressure to inflate the lungs of an unconscious person who is not breathing and also has medical oxygen with a valved mouthpiece that can also be used as a resuscitator available to keep a cyanide exposure victim oxygenated and alive. Water is available via city water system in the shower/eyewash stations and sinks and showers in the locker room. Communication is accomplished with cell phones and radios that have a man- down button.

The auditor inspected these items to verify functionality, finding they had nose cannulas instead of masks to administer oxygen. Cyplus was required to replace cannulas by oxygen masks, as in case of cyanide intoxication it is needed oxygen at 100% to be administered by masks to allow efficiency in the oxygen volume intake. During the audit, the warehouse replaced these elements, finding the auditor this item in full compliance.

CyPlus appropriately maintains emergency response equipment and the antidote to ensure their availability during an emergency. Recent records of equipment inspections were reviewed for the equipment and the antidote. The methods by which shelf-life medicines and antidotes



are managed were also reviewed. The auditor confirmed the dates on antidotes have not expired and also that they are stored at the temperature specified by their manufacturer to ensure it will be effective when used. The antidotes are stored in the air-conditioned warehouse office with the thermostat set to meet the temperature range of 20 to 25 degrees centigrade. CyPlus inspects the first aid and emergency equipment on a monthly or quarterly basis, depending on the item.

Copies of the sodium cyanide Safety Data Sheets are available to workers at the entrance to the operational area of the warehouse in local language, Spanish. First aid procedures are available at the first aid kit. Both the Safety Data Sheets and the first aid procedures are published as posters in two locations of the warehouse. Also, as other information materials on cyanide safety, the facility has enough signing informing about the presence of cyanide and the precautions to consider.

The facility does not include cyanide solution. No solutions or process tanks are in the operation. There is a short run of piping from the sump at the transfer area to the two 2.5 m<sup>3</sup> HDPE tanks. Wash water that is potentially contaminated with cyanide is disposed into these storage tanks labelled as containing cyanide and then sent in reinforced bins (IBC) each 1,000 liters capacity to mine sites for its adequate final disposal. Each bin is sent labeled and returns with the received seal in the transport document. The facility keeps a log of water discharges. The auditor review records of the water transport documents and discharge log covering the audit recertification period.

CyPlus has developed LSP- 90011 Instructive to Clean Working Clothes for employees leaving areas with the potential for skin exposure to cyanide two decontamination procedures, and the procedure PSP-97109 Washing Machinery, Equipment and Water Management. These procedures cover workers and requires that work clothes be washed and workers shower at the end of shifts involving activities with cyanide. The procedures also cover all people entering and leaving the warehouse area and require that they wash their hands when leaving the warehouse.

Employees demonstrated a good understanding of the decontamination procedure and the need for safety precautions. Upon review of the operations, it was deemed to be highly unlikely that there would be a potential for skin exposure to cyanide

CyPlus has onsite capability to provide first aid and medical assistance to workers exposed to cyanide. There is a special room with emergency response equipment, including oxygen tanks,



AED, Tyvek suits, SCBAs, full-face respirators, chemical-resistant boots and gloves, as well as decontamination equipment and tools. Antidotes are stored in a special wall cabinet in the warehouse manager office. All warehouse staff have been trained as responders. However, according to the procedure for cyanide exposure, workers will notify the local hospital and administer oxygen; only medical personnel will administer the antidotes. The auditor reviewed the training records demonstrating that the individuals have received, first aid training to workers exposed to cyanide including the use of oxygen.

During the site visit, the auditor asked one of the workers to apply oxygen to his colleague, simulating first aid for exposure to cyanide, who did not demonstrate sufficient skills in this regard. The operation was asked to provide refreshment training in first aid for cyanide exposures, specifically in oxygen therapy, ensuring the handling of bottle valves for a correct and rapid administration of oxygen to the victim. After the audit Cyplus sent assistance records of this training provided by the EHSQ Manager. No additional information was required to find this item in full compliance.

The ERP covers transfer of exposed victims to a medical center. The procedure for responding to cyanide exposures requires immediate notification to the San Jose Hospital with transport of an exposed worker by the hospital's ambulance. According to the warehouse manager, the hospital is five minutes away. The procedure also allows for warehouse staff to transport the exposed person to the hospital. The auditor reviewed the operation's response procedure confirming compliance with this provision.

The site has an agreement with San José hospital in Obregon to provide medical attention to exposed workers that require attention beyond the site capabilities. CyPlus is confident that the hospital has adequate, qualified staff, equipment, and antidotes because CyPlus has trained the hospital staff, provided antidotes to them, and given them a written procedure.

The site has implemented the standard operation procedure PSP-90019 Accidents and Incidents Investigation to report, evaluate and investigate accidents, including cyanide exposure cases. According to interviews, procedures and practices would be extensively reviewed in the event of an incident to determine the need for revision. There have not been any cyanide-related incidents, but records of other accidents and incidents were reviewed confirming that the general program for investigation of accidents and incidents is being implemented.



## Principle 3 | MONITORING

Ensure that process controls are protective of the environment.

### Production Practice 3.1

*Conduct environmental monitoring to confirm that planned or unplanned releases of cyanide do not result in adverse impacts.*

in full compliance with  
 The operation is  in substantial compliance with Standard of Practice 3.1  
 not in compliance with

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

According to the Environmental Management Plan of the warehouse, updated June 20, 2022 presented to Secretariat of Environment and Natural Resources -SERMANAT, the project area is included in the hydrological region RH 9 Sonora Sur and crosses the Yaqui River basin. In the Yaqui Valley, the underground flow is predominantly NE-SW direction, static levels ranging from 10 to 65 meters. The condition of the aquifer is one of under exploitation. The main use of groundwater is that of irrigated agriculture, followed by the supply of drinking water, highlighting in the latter case, the Yaqui — Guaymas aqueduct, which is supplied by wells drilled on the right bank of the Yaqui River and leads the water to the city of Guaymas, with a route of 120 km, from Loma de Bácum to the bypass of Guaymas — Empalme, supplying several rural locations along the way. To a lesser extent it is also intended for industrial use.

The Official Mexican Standard Nom-127-SSA1-1994, "Environmental Health, Water for Human Use and Consumption-Permissible Limits of Quality and Treatments to which Water Must be Subjected for its purification", establishes The National Standard is 0.07 mg/l for cyanides (as CN-) for drinking water.

The facility does not have an indirect discharge to groundwater (the environment), such as depth to groundwater, the physical condition of facility and secondary containment, the facility's inspection program. Finally, it is worth mentioning that this project was submitted to SEMARNAT's technical opinion, from which it emerged that it was not required superficial or underwater monitoring.

The facility does not discharge directly or indirectly to surface water. No surface water near



facility. There are no requirements or demonstrated need to perform surface water or groundwater monitoring.

The facility limits the atmospheric process emissions of HCN and cyanide dust such that the health of workers and the community are protected. As required by the Mexican regulation NOM-010-STPS-2014, CyPlus contracts to a consultant to perform indoor air analysis for HCN, cyanide dust, and carbon monoxide every two years. The auditor reviewed the consultant reports to verify that HCN and cyanide dust levels were below regulatory action levels for worker exposure. On the auditor's professional opinion, the operation conducts monitoring of atmospheric process emissions at frequencies adequate to characterize the medium being monitored and to identify changes in a timely manner.



## Principle 4 | TRAINING

Train workers and emergency response personnel to manage cyanide in a safe and environmentally protective manner.

### Production Practice 4.1

*Train employees to operate the facility in a manner that minimizes the potential for cyanide exposures and releases.*

✓ in full compliance with

The operation is  in substantial compliance with Standard of Practice 4.1

not in compliance with

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

CyPlus trains all his workers to understand the hazards of cyanide through an annual training and refresher program that include the following topics among others:

- Cyanide properties
- Cyanide safety management
- First aids;
- Use and safety issues related to the SLS system
- Emergency response
- Emergency drills.

The facility has access to Cyplus Idesa intranet online learning module in Spanish the local language, covering the full range of training related to cyanide. This material is used for the cyanide safety training along with face to face training sessions given annually by the Cyplus Idesa ESHQ Manager for Mexico.

Interviews with site personnel confirmed they had completed hazard awareness training. The auditors found that all the warehouse workers have been trained on cyanide related topics. Records cover the re-certification period and include the names of the employee and the trainer, the date, topics covered, and tests of understanding. Records are retained throughout an individual's employment documenting the training they receive.





The site personnel receive specific training regarding the use, storage and cleaning of the personal protective equipment (PPE) required by each activity conducted. Personnel is trained on the procedure PSP-97100 Safety Equipment Use and through the online tool which includes a learning module on PPEs use. In addition, each operational procedure includes the PPE required to perform the job. Auditors found all personnel was trained on the operational procedures, including the use of PPE, during the recertification period.

All personnel involved in the management of cyanide is trained to perform their assigned tasks in a safe and environmentally sound manner. Task training instruct employees on how to accomplish their assigned tasks safely, and the required procedures to accomplish the task in a manner that prevents exposures and releases. Internal training in the operative procedures has been given to all operation personnel during the re-certification period. The induction training program includes the safety procedures and safety measures applicable to the activities that are conducted onsite. The training is provided by the site's Operations Supervisor and by the Cyplus ESHQ Manager.

Assistance and test of understanding records were observed in each person's folder. Employees are trained to perform normal operation tasks to minimize risks to personal safety and the environment. Through interviews, employees showed good awareness of procedural requirements for both normal and upset operating conditions.

Task training is provided to employees before they are allowed to work with cyanide in an unsupervised manner. All personnel is trained internally on cyanide awareness training prior to work in the facility and trained in the job procedures before working with cyanide. The auditor verified its compliance by reviewing the training materials and records and interviewing operational and supervisory personnel.

Refresher training on normal tasks involving cyanide is provided annually to ensure that employees continue to perform their jobs in a safe and environmentally protective manner. This training is specific to their assigned tasks and address cyanide safety. The register of personnel authorized to work with cyanide shows the date of its annual refresher training. Formal evaluations were verified by review of the evaluation records.

The facility uses the work procedures as training material where contains all the necessary elements are identified. Training elements are defined for the different jobs. Records were reviewed and were found to be complete, finding this requirement in compliance.



The training is provided internally by the Operations Supervisor, an experienced operator and also by the Cyplus Idesa ESHQ Manager who trains the emergency response teams in several CyPlus facilities as Obregon, and Ciudad de Mexico. He is a qualified person to provide the safety and operations training. He has been training emergency response teams through the Chemical Industry National Association (ANIQ) in different locations. He also participates in the Dangerous Goods Committee at Hermosillo

Cyplus evaluates the effectiveness of their cyanide task training by testing of employees at the completion of training and observation of employees performing their tasks after initial training. The auditor reviewed records for formally documented evaluations, finding it in compliance.

## Production Practice 4.2

*Train employees to respond to cyanide exposures and releases.*

The operation is  in full compliance with  in substantial compliance with  not in compliance with Standard of Practice 4.2

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

Employees working in areas where cyanide is present are trained in what to do in the event they observe a cyanide release and/or exposure. The facility trains all his personnel on the emergency response procedures stated in the warehouse Emergency Response plan (ERP) document PSP- 90015 Procedure on Acting in Case of Emergencies. This is done as part of the regular safety training that is specific for the warehouse. Interviews with personnel showed acceptable awareness of procedures. Workers have also been trained by qualified personnel from the Chemical Industry National Association (ANIQ) regarding procedures to be followed in case of a cyanide release.

All workers at the warehouse conforms the Emergency Response Brigade and have been trained to aid workers exposed to cyanide. Training includes the use of the cyanide antidote kit owned by the site. Besides, the site has a commercial agreement with the San José hospital to assist workers exposed if required. The training includes practice in the use of the antidote kit. Drills are conducted annually to test general response to chemical emergencies, including chemical exposure. Corrective actions are processed and emergency procedures are revised



as necessary following the drill results for improvement opportunities.

The site keeps training records and evaluation results of all trained workers. Training records are maintained for at least as long as the employee is working at the site. Records were reviewed and were sufficiently detailed to be found conformant. The auditor reviewed this documentation and interviewed trained personnel determining compliance with this provision, documenting the training they have received and including the names of the employee and the trainer, the date of training, the topics covered, and how the employee demonstrated an understanding of the training materials.



## Principle 5 | EMERGENCY RESPONSE

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

### Production Practice 5.1

*Prepare detailed emergency response plans for potential cyanide releases.*

The operation is  in full compliance with  in substantial compliance with  not in compliance with Standard of Practice 5.1

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

The Cyplus Obregon warehouse maintains the document PSP- 90015 Procedure on Acting in Case of Emergencies which is the facility Emergency Response Plan (ERP) specific to the site. It address procedures to follow in case of cyanide release, fire and explosion, including potential releases of cyanide from the SLS. The ERP is a specialized document addressing cyanide emergency response information. Also has the Procedure in Case of Cyanide Exposure, to provide first aids in case of cyanide exposures.

The ERP considers the following potential failure scenarios for its site-specific environmental and operating circumstances:

- a) Catastrophic release of hydrogen cyanide. The ERP contains a section on warehouse evacuation, the appropriate action for a large HCN release.
- b) Releases during loading and dissolution operations. The ERP contains a section on leaks or spills of cyanide during loading, unloading or transfer operations; dissolution is inapplicable.
- c) Releases during fires and explosions. The ERP contains a section on fire breakout.
- d) Pipe, valve and tank ruptures. Inapplicable because the warehouse intermittently manages small quantities of wash water in a sump, short pipeline, and two 2.5 m3 tanks in secondary containment. Because of the small size of this system, any ruptures would not constitute an emergency.
- e) Power outages and equipment failures. The transloading machine has systems to shut it down in the event of power outages and equipment failures. The machine stops in the event



of a power outage and in the event of equipment failure, the operator at the control panel would hit the emergency stop button. In either case, the cyanide briquettes would remain within the machinery. The procedure for transferring cyanide from boxes to an isotanker describes these measures.

- f) Overtopping of ponds, tanks and waste treatment facilities. Inapplicable because the warehouse does not have ponds, tanks, or waste treatment facilities for cyanide process solutions.

The ERP and an associated procedure describe, as appropriate to the applicable emergency scenarios, the following:

- a) Specific response actions. The ERP describes step- by-step response actions for leaks, spills, fire, confined spaces, injured workers, and site evacuation. There is also a community telephone directory for contacting the neighboring industrial facilities should a broader evacuation be needed.
- b) Use of cyanide antidotes and first aid measures for cyanide exposure. The procedure for responding to cyanide exposures describes actions for inhalation, absorption, and ingestion for both conscious and unconscious victims. Warehouse staff would administer oxygen but only trained medical staff from the hospital/ ambulance (approximately five minutes away) can administer the antidotes.
- c) Control of releases at their source. The section in the ERP on leaks and spills discusses controlling sources.
- d) Containment, assessment, mitigation and future prevention of releases. The section in the ERP on returning to normal operating conditions describes containment, assessment, mitigation, and prevention measures, including a detailed investigation in accordance with the separate incident investigation procedure.



## Production Practice 5.2

*Involve site personnel and stakeholders in the planning process.*

in full compliance with  
 The operation is  in substantial compliance with Standard of Practice 5.2  
 not in compliance with

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

Workers have been involved in emergency response planning via the process mapping sessions and mock drills. The process maps include the types of emergencies possible with each activity. Workers have also been trained in safe cyanide management and antidote use. Stakeholders were involved in the initial environmental risk study and the environmental license for the warehouse. Ongoing involvement has been via trainings and mock drills. CyPlus has provided cyanide antidote training and safe cyanide management training to warehouse workers, regional hospitals, firefighters, red cross, police, universities, and others. Staff from two trucking contractors have also participated in the mock drills. The warehouse manager stated that the nearby businesses have been invited to participate in mock drills, but none have done so.

Local emergency response agencies such as the Red Cross, State Civil Protection Agency, Fire Department and the San Jose hospital had been trained by CyPlus and have been informed of their responsibilities in case of emergency during the training during the recertification period. Adjacent facilities have been informed of the site operations, the coordination in case evacuation is required and provided with CyPlus contact details.

The Obregon facility is located within an industrial park. The site has informed adjacent facilities and civil protection authorities regarding its operations and coordination in case evacuation is required. The site provided a copy of its emergency response procedures to the civil protection authorities.

The facility was able to demonstrate through interview and through communication records covering the recertification period, that they are in regular contact with local authorities, and external emergency responders.

The Police Department, Fire Department, Red Cross, State Civil Protection Agency and the San Jose hospital, have received training on cyanide sponsored by CyPlus, and participated in



emergency drills during the recertification period. The auditor reviewed the cyanide toxicology training records provided to these entities during the recertification period.

CyPlus has engaged in regular consultation and communication with stakeholders to ensure that the ERP addresses current conditions and risks. CyPlus provided training to the neighbors and external responders on a regular basis during the recertification period. There have been no material changes to the facility, conditions, or risks during the recertification period.

CyPlus has provided cyanide antidote training to regional hospitals, firefighters, red cross, police, universities, and others. Staff from two trucking contractors have also participated in the mock drills. The auditor's finding is based on interviews with on-site personnel. Cyplus is engaged to maintain their involvement in ongoing improvement of the ERP.

### Production Practice 5.3

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

The operation is  in full compliance with  in substantial compliance with  not in compliance with Standard of Practice 5.3

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

Site workers, management personnel and the customer service employee are members of the site emergency response brigade. Their roles are described in the civil protection plan. Site manager is the brigade coordinator and the customer service employee is the person in charge to the internal and external communications in case of emergency. Responsibility, authority, and duties for managing an emergency situation are clearly described.

The emergency response team is identified in the civil protection plan.

The members of the emergency response brigade have been trained by qualified CyPlus personnel and by National Association of Chemical Industry (ANIQ). The ERP indicates responsibilities and training needs for the emergency responders.



The ERP has an updated emergency telephone numbers list. It includes telephone numbers of the local emergency response agencies and CyPlus representatives. The Emergency Response Plan includes call-out procedures for initiating a response to a cyanide-related emergency. The telephone list includes contact information for the CyPlus Idesa coordinators and emergency response team members. Additionally, in the Cyplus website is published 24-hour contact information for the Mexican operation.

Responsibility, authority, and duties for managing an emergency situation are clearly described in the ERP.

The civil protection plan lists the emergency response equipment that should be available and includes PPEs, containment and neutralization materials and collection equipment for waste generated during the emergency.

Emergency response equipment is inspected monthly using a checklist. Its availability and operability was confirmed during the audit. Filled checklists were reviewed and interviews during the audit confirmed this practice.

The role of the local emergency response agencies is described in the emergency response plan; they have participated in the emergency drills conducted by the site

Cyplus has confirmed that outside entities with roles in emergency response are aware of their involvement and have been included in trainings that included practicing cyanide first aid and antidote use. The primary outside responder is the San Jose Hospital, some five minutes from the warehouse. CyPlus has a contract with this hospital, has delivered antidotes to them, included them in trainings, and provided them an informational document for doctors. Other local and regional entities, such as hospitals, firefighters, red cross, police, universities, have also been trained. Records were available and were complete.





## Production Practice 5.4

*Develop procedures for internal and external emergency notification and reporting.*

The operation is  in full compliance with  
 in substantial compliance with Standard of Practice 5.4  
 not in compliance with

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

The ERP includes emergency telephone numbers, where telephones numbers of the nearest hospital (San Jose hospital), local emergency agencies and the CyPlus representatives are included. The Plan establishes who is responsible of calling the external responders and authorities. The ERP contains procedures for evaluating an emergency and as appropriate, notifying management, agencies, responders, medical facilities, and others. The auditor reviewed the Emergency Response Plan verifying that this information is available and up to date. In addition, CyPlus has developed a Crisis Management Plan and a Communication Plan that contains the procedures for external corporate communications during an emergency.

The warehouse is located within an industrial park; the contact phones information in the ERP includes the names of the adjacent facilities that would be notified in case of emergency. The ERP includes who needs to make the notifications (in the event of an emergency) to CyPlus leadership, neighboring industrial partners, and authorities. The Plan describes the procedure to notify the external support to achieve a more effective emergency response. The emergency response procedures also include measures for contacting and communicating with the media in the event of an emergency. The information was available for the auditor's review in the Emergency Response Plan.

The Emergency Response Plan includes a requirement and details to notify ICMI of any significant cyanide incidents, as defined in ICMI's Definitions and Acronyms document. No such communications have been done as there was no significant incident in the operation.



## Production Practice 5.5

*Incorporate remediation measures and monitoring elements into response plans and account for the additional hazards of using cyanide treatment chemicals.*

The operation is  in full compliance with  in substantial compliance with  not in compliance with Standard of Practice 5.5

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

The warehouse Emergency Response Plan address recovery cyanide briquettes, decontamination of contaminated media, and management and disposal of spill clean-up debris. Briquettes would be recovered using brooms, shovels, bags, and pails. Recovered materials would be returned to the boxes or isotankers or disposed as with other hazardous wastes.

According to the procedure Solid Waste Management PSP-90064, the operation would dispose of soils and other media contaminated with cyanide that is not returned to the IBCs or isotankers. All the bags (super bags) generated in the transfer area will be placed inside the same bag or box until it is filled, forming bales; in these same bales of bags or boxes will also be placed all the contents of the drums identified as hazardous solid waste, then they will be placed inside the warehouse of hazardous waste, which must be identified according to their content, to later be sent for final disposal to a company authorized by the environmental authority. Wooden boxes (Special Handling Waste) will be sent for destruction to avoid reuse, this will be done through a company that has the special handling waste permit. The auditor reviewed the Temporary Storage of Hazardous Waste (ATRP) CDO-MRSO-015/F1 logs of inputs and outputs ATRP delivery, transport and reception manifests.

There are no cyanide process solutions used at the warehouse, but in the unlikely event of a liquid cleanup, the ERP indicates that absorbent materials or sand would be used, followed by recovery as with solid cyanide. Other than wash down with water, if needed, neutralization or treatment is not anticipated.

Provision of an alternate drinking water supply is not considered as the operation only manages solid cyanide over impermeable surfaces, a release from the operation is not considered can adversely impact a drinking water supply. Although Cyplus Idesa warehouse is supplied with drinking water from the public network, the personnel drinks bottled water. The warehouse and



surrounding businesses are supplied by city water with the sources distant from the industrial park.

Considering that all activities in the warehouse are performed inside the site property and there are not surface water bodies near of the site, the Plan does not mention the prohibition to use chemicals such as sodium hypochlorite, ferrous sulfate and hydrogen peroxide to treat cyanide released into surface water.

The warehouse Environmental Management Plan address the need for environmental monitoring to identify the extent and effects of a release. The maximum cyanide in soil limits in Mexico and any soil treatment method must be approved by the government. The guideline references the Mexican law, article 98, chapter 2, Articles 134 to 144.

Contingency Plan on the road PSP-90014 requires that in cases of a larger emergency with cyanide spill, Cyplus IDESA must have contact with SETIQ (Transport Emergency System for the Chemical Industry) who in turn is responsible for notifying the corresponding authorities, prior authorization of the Commercial General Director. Cyplus must continuously monitor the situation and stay connected with those responsible for the different areas involved, until the emergency is completely resolved. In case of mobilization of the spill by stormwater, they must inform the authorities about the contamination of the sea, river or lake. Communities supplying contaminated water should be alerted to contamination and consumption of water that should be prohibited until the monitored NaCN (sodium cyanide) values are within the minimum values allowed by law. It indicates to monitor, in conjunction with the local authorities, the levels of pollution of the sea, river or lake.

## Production Practice 5.6

*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 Standard of Practice 5.6

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

According to the ESHQ Manager, the corporate document control policy requires that emergency plans be updated when conditions change or at least every 3 years. The ERP and accompanying procedure for cyanide exposure contain a section on the history of changes to



these documents. The ERP has been updated twice during this recertification period.

Emergency drills have been conducted through the audit recertification period. The drills are evaluated by the site management, workers and local emergency agencies. Learned lessons are considered to update the Emergency Response Plan and procedures if required. The modifications to the Emergency Response Plan and procedures are notified to the site workers Report of the drill with cyanide in solution with pressurized tank in the CDO transfer area, carried out in December 2020 with six participants. An isotanker from the mine arrives pressurized to the CDO, without the personnel having been notified. When opening the dome to connect the hood of the transfer machine, there is a leak of the liquid remaining from the dissolution, splashing with cyanide solution a warehouse operator, which requires decontamination and review by medical personnel.

Mock drill with sodium cyanide in the CDO box area, in November 2021, with six participants, with the objective to train new staff working in the CDO to practice in emergency response actions. They simulated that, during the loading work, a warehouse assistant pierces a wooden box with a super sack of cyanide, which spills approximately 15 kilos of sodium cyanide. The hypothesis of generation of HCN gas is handled, so that the personnel attended the emergency with level A protection suits. A temporary patch is placed on the box and the spilled material is removed.

The auditors reviewed the mock drills reports for the recertification audit period, where the response times were considered, the training, the material handling suitability and the personal involvement. The reports include evaluation of the drills, the ERP compliance, and established the necessary corrective action. Corrective actions were done and closed.

CyPlus has provided related evidence of review and update of an operational procedure ERP PSP- 90014 Contingencies Plan on Road 2022, after the incident related to transport on January 10, 2022, on the Yecora - Chihuahua highway kilometer 360, where a Degam van with 12 tons of sodium cyanide overturned, leaving the vehicle on the side of the river. Most of the product was spilled onto the truck's platform. This ERP requires to evaluate the Plan and revise as necessary after any emergency that required its implementation.

