

# **KINROSS - LA COIPA**

## **MINING OPERATION SUMMARY AUDIT REPORT**

FOR THE  
INTERNATIONAL CYANIDE MANAGEMENT INSTITUTE

JULY 2023



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**Operation General Information**



Name of Mine:	La Coipa Mine
Name of Mine Owner:	Kinross Gold Corporation
Name of Mine Operator:	Compañía Minera Mantos de Oro S.A. (MDO)
Name of Responsible Manager:	Pablo Salazar Guerrero   Cost Controller – Plant Operation
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## Operation Location Detail and Description

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La Coipa, belonging to Mantos de Oro Mining Company, is a subsidiary of Kinross Gold Corporation. Founded in 1993, Kinross Gold is a senior gold mining company with a diverse portfolio of mines and projects in the United States, Brazil, Chile, Ghana, Mauritania and Russia. With headquartered in Toronto, Canada, Kinross employs approximately 9,000 people worldwide.

La Coipa mine operation is located in the sector of La Coipa, province of Copiapó, Atacama Region, at an altitude between 3,800 and 4,400 meters above sea level, about a thousand kilometers north of Santiago de Chile and 140 kilometers northeast of Copiapó. The access road corresponds to the international route that leads to the San Francisco Border Crossing. In 2007, when Kinross bought the remaining 50% of Goldcorp Inc., it became its sole operator, taking advantage of its economically exploitable reserves until the last quarter of 2013, when it announced its Partial Temporary Shutdown (PTS).

The suspension of activities due to the depletion of its mineral resources, served for its professionals to continue exploring the feasibility of a reopening, whose news was finally announced in February 2020 with the start of its Phase 7 project.

In March 2022, Kinross announced that the mine poured its first gold bar after restarting operations following a suspension of activities in October 2013. La Coipa refurbished the existing process plant, camp and other infrastructure, as well as the mine fleet from Kinross' Maricunga operation, which has been placed on care and maintenance.

After the start of operations in Phase 7, Kinross announced the incorporation of the Purén pit to its operational objectives, which allowed adding about 200 thousand ounces of material at the production level, for a total of approximately one million ounces of gold.



With the reactivation of Purén, the mine was optimized by 45%, extending its useful life. Kinross continues to explore other potential opportunities in the Coipa Norte and Can deposits, with the aim of extending their durability until the end of this decade.

The decision to start the Phase 7 project, triggers the reopening of La Coipa, puts an end to the partial temporary stoppage, from which actions are generated aimed at reviewing the facilities, within the framework of the current applicable. Most of the works and facilities of the La Coipa mining operation, including pits, dumps, the mineral processing plant, the dry stack tailings deposit (Rahco) and its auxiliary facilities, are pre-existing.

La Coipa has built a new cyanide warehouse since the resumption of the mining operation, to comply with Chilean regulations for warehouses of hazardous substances.

La Coipa operation is designed as a zero discharge facility, with no direct discharge to surface water. Since the mining operation restarted its operations in 2022, it always uses groundwater as it did in its initial stage. La Coipa uses groundwater for its operations; it has been operating a groundwater cutoff and collection/remediation system (Remediation Area) downgradient of the Tailings Storage Facility (TSF), which functions to capture groundwater seepage from the TSF for treatment to reduce residual heavy metal concentrations and recycling back to the mineral separation process.

The current operation consists of four open pits, primary and secondary crushing plants, a mill, cyanide leach circuit, filtration plant and dry-stack Tailings Storage Facility (TSF). The processing of the ore is described below.

#### ***Crushing stage***

Ore extracted from open pit mines is trucked to the rotating primary crusher. The crushed ore to 90% with size of 4", is driven by conveyor belt to a stockpile of total capacity of 45,000 tons, provided with a cover to prevent the dragging of particulate matter.

#### ***Grinding Stage***

From the crushing stockpile, the ore is extracted with vibratory feeders, passing to a conveyor belt that also receives the addition of quicklime for the regulation of the pH of work in the plant. The material passes through a vibrating screen, the oversize goes to two stages of crushing in open circuit, and the low size is transported by belts and fed a Semi-Autogenous Grinding (SAG) mill. The mill discharge feeds two vibratory screens with 1/2" mesh. The oversize of the screens is transported by belts and fed a cone crusher, whose product returns to the SAG mill. The small size of the feeders is discharged to a pumping caisson, and then fed to a cyclone feed distribution caisson. The oversize of the cyclones feeds two mills where the product of this returns to the



distribution box, while the low size feeds the feed box to the grinding thickener of 60' in diameter.

### ***Thickening and Leaching***

The grinding thickener maintains a discharge between 52 and 55% of solids that feeds the stirring leaching stage. The clear solution that overflows from the thickener is recycled to the grinding circuit. The pulp that discharges from the thickener feeds 8 agitators, with capacity for 3,000 m<sup>3</sup> each, 16.8 meters in diameter and 14.3 meters high. These dimensions provide a residence time of 24 hours and have an air injection system, through a blower, to add oxygen to the system and facilitate the dissolution of gold.

### ***Countercurrent Washing Circuit (CCD)***

The CCD circuit is fed by the pulp that is discharged from the leaching circuit. It consists of 3 high capacity thickeners, which operate by receiving a washing solution from the refinery area (sterile solution). The pulp is fed to the thickener N°1 and the sterile solution is fed to the thickener N°3 at a ratio of 1.2 m<sup>3</sup> per ton processed. The overflow solution of thickener No. 1 corresponds to the solution that is sent to the refinery for the precipitation of gold and silver. The pulp (underflow) of the thickener N°3 constitutes the depleted tailings and is pumped to the filtering area, to proceed with the final washing and recovery of the impregnation solutions. The percentage of solids in the discharge of thickeners usually varies between 50% and 60%. As the material is finer or slimy, the percentage of solids in the discharge varies from 30 to 40%.

An overland belt conveyers transport the final tailings (at approximately 20% moisture content) from the filtration plant to one of two deposition areas at the TSF. The conveyors connect directly to a new movable stacker system located at the main deposition area, where the tailings are deposited uniformly, in longitudinal strip piles and then spread and compacted by bulldozers.

### ***Filtering***

This area has 12 vacuum belt filters, with a filtering area of 100 m<sup>2</sup> each. Before feeding each filter, the pulp is sorted into a 15" cyclone battery. The thickness (underflow) is fed directly on the filter fabric and the fine (overflow), is fed on the thick material previously deposited. The formed cake is washed with industrial water, displacing the residual solutions containing gold, silver, cyanide and lime, which are collected and recycled by pumping to the CCD circuit.

### ***Clarification Area***

The solution that arrives with a turbidity of 50 NTU (Nephelometric Turbidity Unit) is fed to 2 clarifier-sedimentation cones that pre-clarify the rich solution until obtaining 10 NTU on average. This solution is processed by 4 vacuum disc clarifier filters, obtaining turbidity indices in the range of 0.5 to 1.0 NTU.



The deaeration of the clarified solution is carried out by driving the solution towards 2 vacuum filling towers. At the outlet, 1 ppm (part per million) of oxygen remains dissolved in the solution and zinc is injected in the form of a pulp, to produce the precipitation of gold and silver dissolved in the solution and, finally, they are collected in the filter presses. Zinc powder is added in amounts of 0.6 to 1.5 parts of zinc by part of gold or silver.

The circuit has 4 press filters, two in operation and two in reserve. The mixture with the precipitate is driven to the filtration system. The harvested precipitate has about 60 to 70% silver, 0.1 to 2.0% gold and 2 to 20% mercury.

### ***Refinery Area***

The precipitate is dried and calcined in 8 retorts to separate the mercury and obtain it as a by-product. The calcined from the retorts is refined by adding soda ash and borax. The mixture is loaded into the 2 reverberatory furnaces with an operating capacity of 200 kg/h, where it is melted using fuel and oxygen. The slag from the process is recycled to the crushing area.

Doré metal bars weigh about 200 kg and have a grade of 980 to 985 gr/kg in silver and 3 to 5 gr/kg in gold. The mercury obtained is purified in a vacuum tower to obtain a purity greater than 99.5 and then sold to authorized companies.

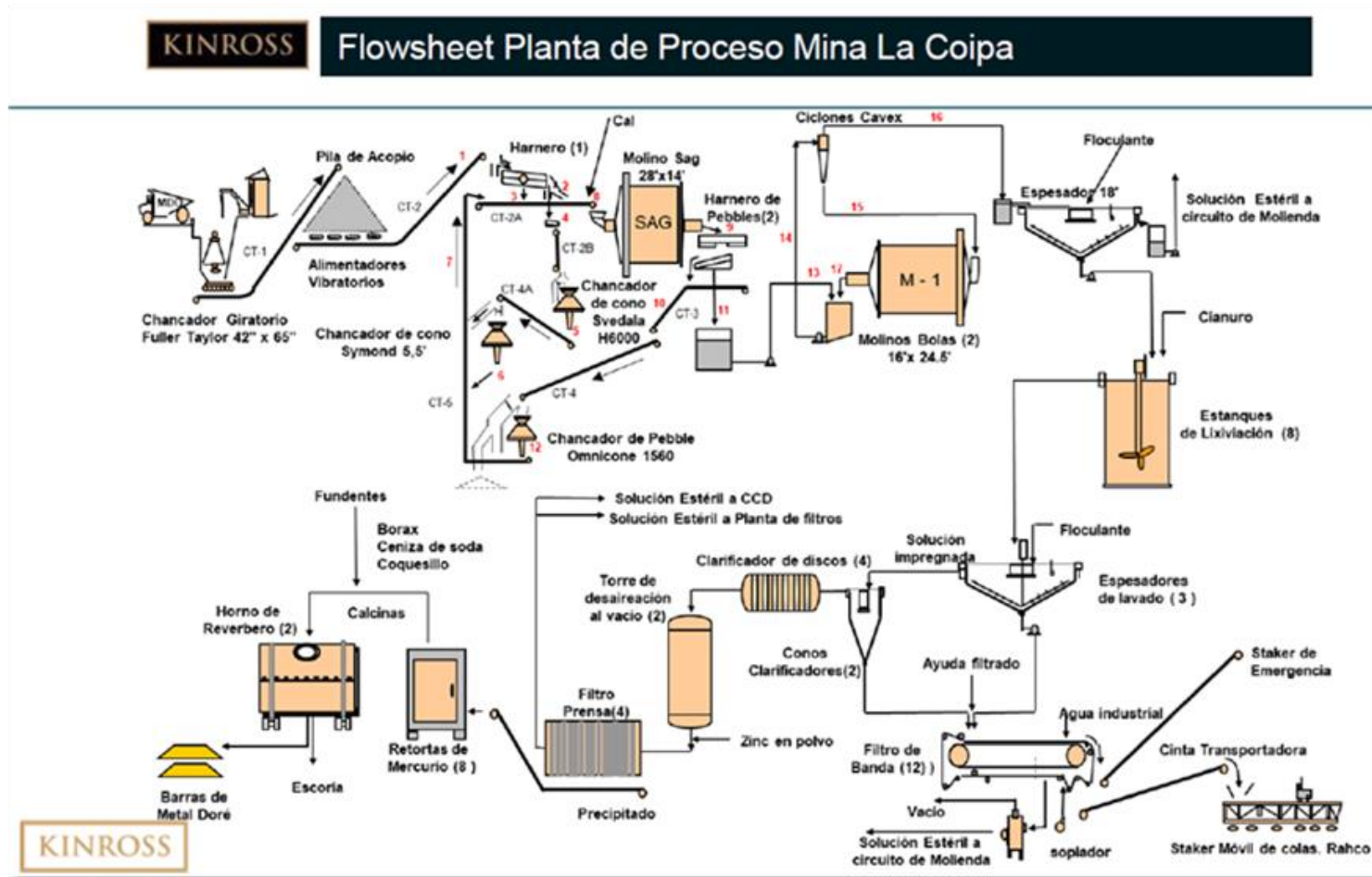
The primary active cyanide facilities at the La Coipa operation identified during the audit included:

- mills (one SAG mill, two ball mills, mill thickener tank, three solution tanks, associated equipment and facilities);
- cyanide warehouse for solid cyanide storage;
- cyanide mixing facility: one primary and one reserve mixing tanks, and one storage tank;
- cyanide leach circuit (8 carbon in leach -CIL- tanks);
- pregnant solution tanks (2); Barren solution tank;
- counter-current decantation (CCD) thickener tanks (3);
- clarifying cones (2);
- process tanks (44 total, including those mentioned above);
- filtration plant;
- overland belt conveyors (for tailings disposal);
- Rahco dry tailings storage facility (TSF);
- mill pond, refinery pond, emergency pond and remediation pond;
- concrete secondary containments; and
- associated pump/pipeline systems for all facilities listed above.



**Mine – Atacama, Copiapó, Chile**





*B. Pizzorni*



## Auditor's Finding

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This operation is

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

with the International Cyanide Management Code.


## Compliance Statement

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This operation is in Full Compliance with the requirements of the International Cyanide Management Code.

## Auditor Information

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Audit Company:	Cyanide Auditors S.A.	
Lead and Technical Auditor :	Bruno Pizzorni   bpizzorni@cyanideauditor.com	
Auditor in training:	Jean Lostaunau	Sign: 
Dates of Field Audit:	April 17 to April 20, 2023	

## Auditor Attestation

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I attest that I meet the criteria for knowledge, experience and conflict of interest for a Cyanide Code Certification Audit Lead Auditor, as 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 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 Mining Operations Verification Protocol and using standard and accepted practices for health, safety and environmental audits.



## Principle 1 | PRODUCTION AND PURCHASE

Encourage responsible cyanide manufacturing by purchasing from manufacturers that operate in a safe and environmentally protective manner.

### Standard of Practice 1.1

*Purchase cyanide from certified manufacturers employing appropriate practices and procedures to limit exposure of their workforce to cyanide, and to prevent releases of cyanide to the environment.*

in full compliance with

The operation is  in substantial compliance with Standard of Practice 1.1

not in compliance with

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

La Coipa acquires cyanide from Draslovka Mining Solutions (Draslovka), former Chemours, by means of its Code certified Draslovka's Memphis production operation. The auditor reviewed the International Cyanide Management Institute (ICMI) website verifying last certification of Draslovka US Production and Packaging Operations is dated May 24, 2023.

The auditor reviewed the agreement between MDO and Draslovka valid from January 1st 2021 to December 31 2024 to purchase solid sodium cyanide for La Coipa mine. The contract, shipping documents, reception and purchasing records were available for review. The agreement requires the facility has to be certified as following the Code requirements.

The auditor verified compliance by interview with the Warehouse Manager and its staff; and reviewing cyanide purchase orders, commercial invoices and goods of receipt since years 2021 to April 2023.



## Principle 2 | TRANSPORTATION

Protect communities and the environment during cyanide transport.

### Standard of Practice 2.1

*Require that cyanide is safely managed through the entire transportation and delivery process from the production facility to the mine by use of certified transport with clear lines of responsibility for safety, security, release prevention, training and emergency response.*

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

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

The auditor reviewed the chain of custody records to identify each transporter, supply chain, and supply chain component that participate in transporting cyanide from production facility Draslovka Memphis Plant to the mine site, confirming that each of these parties is certified or is part of a certified supply chain.

The auditor also reviewed the document with statement from Draslovka describing their cyanide supply chain from the production plant in Memphis to La Coipa cyanide warehouse. Draslovka to La Coipa mine the Supply Chain is as follows:

Draslovka loads bag in Intermediate Bulk Container (IBC) that are placed on sea containers with sodium cyanide at its Memphis, Tennessee manufacturing plant. This loading operation was included in Draslovka Cyanide Production certification audit. Draslovka is a signatory to the Code, its certification audit can be viewed on the ICMI website. <https://cyanidecode.org/signatory-directory-type/draslovka-mining-solutions/>

The CSX Railway then transports the material via rail to the port in Savannah, Georgia, where custody is transferred to their ocean shipping carrier. A Due Diligence audit of the CSX has been completed by an ICMI approved auditor and found to be in Full Compliance with the Cyanide Code. This is covered by Draslovka Signatory Supply Chain status, and the report can be viewed on the ICMI website under Draslovka's Rail & Barge Supply chain segment. <https://cyanidecode.org/wp-content/uploads/2021/06/DraslovkaUSCanadaSupplyChainSAR2022.pdf>

Draslovka shipping carriers: MSC, Sealand, Maersk, Hamburg Sud and Hapag Lloyd, loads the containers onto their ocean vessels for transport to Chilean ports. Draslovka Ocean carriers have completed a Due Diligence audit by an ICMI approved auditor and found to be in Full Compliance with the Cyanide Code. This is covered by Draslovka Signatory Supply Chain status, and the report can be viewed on the ICMI website under Draslovka's Global Ocean Supply Chain



segment. Draslovka has conducted a due diligence review of the Ports of Chile and notified the ICMI of their intention to add the ports to the Global Ocean Supply Chain in 2022.

<https://cyanidecode.org/wp-content/uploads/2021/06/DraslovkaOceanSupplyChainSAR2022.pdf>

Transportes Verasay is a transport company in Chile, which is contracted by Draslovka to collect the containers at the port and transport them to the mine. Transportes Verasay was audited by an auditor approved by the Cyanide Code and was in Full Compliance with it. Transportes Verasay is a signatory of the code, and the audit report can be seen in the ICMI webpage. <https://cyanidecode.org/wp-content/uploads/2021/06/VerasaySAR2022.pdf>

The auditor compared the purchase and transport agreement between Draslovka and MDO, also the Draslovka letter describing the supply chain actors participating between the production plant to the mine site, confirming that sodium cyanide is being transported by certified companies or included in certified supply chain listed on the Cyanide Code website, finding Full Compliance with Standard of Practice.



## Principle 3 | HANDLING AND STORAGE

Protect workers and the environment during cyanide handling and storage.

### Standard of Practice 3.1

*Design and construct unloading, storage and mixing facilities consistent with sound, accepted engineering practices, quality control/quality assurance procedures, spill prevention and spill containment measures.*

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

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

To comply with Chilean regulations for warehouses of hazardous substances, since the resumption of the mining operation, La Coipa has built a new cyanide warehouse. This facility is professionally designed and constructed in accordance with sound and accepted engineering practices for these types of facilities and complies with Supreme Decree No. 43/2016, which approves the regulation of storage of hazardous substances. The measures stipulated in this regulation are mainly based on walls with fire resistance (RF15 or higher).

The auditor reviewed the cyanide warehouse design specifications, the as-built drawings stamped by certified professional engineers and the dossier documenting quality assurance and the quality control (QA/QC), performed during its construction.

The cyanide warehouse is a lightweight steel structure, based on frames formed by W section steel columns and reticulated steel beams. The entire structure is founded on isolated footings and since there is a difference in level between the zinc and cyanide warehouses, retaining walls have been arranged, one of which is new and which together forms the perimeter of the reinforced concrete slab in which the internal maneuvers for the storage of cyanide are carried out. The entire perimeter is clad with F-30 fire-resistant sandwich panels, considering areas that incorporate vents at the bottom and top of the panels.

The roof is made up of preformed zinc panels properly secured to the structure. The entire roof structure is coated with intumescent paint with fire resistance of F-60, in the thickness as indicated by its manufacturer which is related to the massiveness of each element of the structure.



The warehouse has 3 main entrances, 2 of which represent emergency exits, which have a fire resistance of F-60 and have an anti-panic opening, and a large sliding door access gate.

The interior pavement of the warehouse corresponds to a reinforced concrete slab with a 1% slope to the outside, the concrete joints were sealed with Sikaflex<sup>®</sup>, an elastic joint sealant based on polyurethane. The pavement was polished and finished with epoxy paint according to demarcation for each of its areas. A safety shower and low pressure eye wash station is located outside of the cyanide warehouse.

To protect the contents stored in the warehouse from the inclement weather of the site where they are located, the roof structure and its roof are designed to resist snow and wind loads, however, openings are left on the South and East facades, to maintain permanent passive ventilation according to local regulations.

The auditor reviewed the warehouse construction quality dossier, performed by contractor Garde-Corps Ltda. The Hatch company did the engineering design; La Coipa performed the soil studies for foundations. The intumescent (fire retardant) paints were tested, as was the entire structure according to engineering studies. They showed steel certificates and non-destructive welding tests. The concrete was supplied by Vecchiola S.A. in the form of dry ready-mix concrete. The LEM laboratory, accredited by the Chilean standard, was responsible for the compression tests of the concrete. They have certificates approved by the SEC (Superintendence of Electricity and Fuel) for electrical installations with galvanized pipes and wiring.

The mixing facilities for reagent-strength cyanide and off-load area, were also professionally designed and constructed and were subject to modifications and improvements, as required during the ICMI audit performed to the operation in year 2011. In occasion of this certification audit, the auditor verified that the site has retained the QA/QC and design drawings of the cyanide solution preparation and off-load area from year 1990. La Coipa keeps in its onsite library, all project specifications, as built drawings and QA/QC dossier in hard copy and electronic versions. These documents were fundamentals on reactivating the plant after almost 8 years of stoppage.

The auditor confirmed on site the following improvements were implemented in the mixing facilities for reagent-strength cyanide, as requested during the first ICMI audit in 2011: a metal shroud was installed on top of the hopper to help center the super-sack as it is dropped on the cutter, which also helps confine any overspray from the rinsing operations; an emergency eyewash/shower was installed on the mixing deck; the primary cyanide pump maintenance drain valves are locked to prevent inadvertent operation of the valves while the pump is in operation.



The reagent-strength cyanide unloading, storage and mixing facilities are located away from offices and shops where workers congregate and fenced with locked gates. These facilities are away from communities and from surface water bodies - surface water does not exist around the mine because of the arid climate. These facilities are located near the center of the mill complex, several kilometers away from the man camp and over 40 kilometers distant from the nearest human habitation.

Access to the warehouse during offloads and moving boxes is restricted, as well to the process plant where the cyanide mix occurs.

La Coipa do not receives liquid cyanide from a tanker truck or isotainer system.

The cyanide storage tank is equipped with functioning overflow protection. The process plant has level sensors installed on the cyanide mixing and distribution tanks at the preparation area, which can be monitored from a central control room, as well as a high-level alarm. The verification of functionality is required prior to each mix event.

The tanks with cyanide and all the tanks of the plant, in general, have electronic ultrasonic level sensors with constant maintenance by the Electrical, Instrumentation and Automatic Control Department. During the weekly review of equipment, they are cleaned and changed as needed, since the operation has stock of these sensors in the mine's general warehouse.

The auditor reviewed sensor's inspections and maintenance records verifying it being conducted on an appropriate basis. Also, observed screen shots in the control room that indicated the level controls were functioning on these tanks, confirming this equipment is in place and functional.

The entire cyanide offload area and cyanide mixing and storage tanks are constructed of reinforced concrete slab-on-grade (i.e., pad, curbs, parapets, footings and tank foundations).

According to the as built drawings, cyanide mixing and storage tanks have been installed with a concrete impermeable barrier between the tank bottom and the ground that will prevent seepage to the subsurface environment. The containment floor and tank foundations are monolithic and the floor is thickened beneath the foundation plinths. This foundation and floor system in good conditions now, serves to prevent any seepage from the tank bottoms from entering the ground.

In occasion of this audit, the auditors observed that the conditions of the pavement for secondary containments of the cyanide storage and mixing tanks showed wear, which did not ensure preventing seepage to the subsurface. As the operation was already aware of these issues, they showed the auditors the existing agreement with an



external contractor in charge to repair this elements, the work plan and progress to date. Likewise, the auditors verified during their site visit that the contractors were already working on fixing this situation. After the audit, the mine sent photographs showing that all this surfaces and parapets had been fixed correctly. No additional information was required to declare this Protocol Question in full compliance with the Code requirements

According to the as built drawings, secondary containments for cyanide solution storage and mixing tanks are constructed with concrete, providing a competent barrier to leakage. The entire secondary containment is built within a reinforced concrete pad surrounded by curbs, parapets and stem walls, providing a competent barrier to seepage. The concrete floor is sloped to drain to concrete trench drains, where any spills will be pumped to the grinding thickener tank.

At La Coipa cyanide is stored with the following measures:

Solid cyanide is stored under a roof made up of preformed zinc panels properly secured to the structure in an enclosed building and on concrete pad to minimize the potential for contact with water. A safety shower and low pressure eye wash station is located outside of the cyanide warehouse. The slopes of the areas around the warehouse have been properly leveled with negative slopes to avoid any surface water runoff can enter the warehouse.

The cyanide enclosed storage in the warehouse is ventilated in the event of hydrogen cyanide (HCN) gas generation for any reason. The warehouse perimeter walls have vents at the bottom and top of the panels. The warehouse has 3 main entrances, 2 of which represent emergency exits, and a large sliding door access gate which is opened for ventilation in anticipation to any operation in the warehouse, forming a passive ventilation system. Prior to putting new boxes in or removing boxes for mixing, the warehouse doors are opened, allowed to ventilate and then the personnel take manual HCN readings to verify that the HCN concentrations are safe. Cyanide solution storage area is also well ventilated and provided with an HCN gas fixed monitor.

The cyanide mixing building for cyanide solutions preparation, has ventilation windows and air extractors, which with the overhead entrance door located in the opposite side, provide cross ventilation to the building. The operating procedure I-CN-010 Cyanide preparation and its checklist, require workers to verify that the extractors in the building are in service and that the building windows are open to ensure good ventilation. The procedure also requires workers to check the reading on the fixed HCN monitor in the area and confirm the reading with the personal monitoring device.





For overall security purposes, both solid and liquid reagent-strength cyanide are stored to prevent access by unauthorized personnel. The cyanide warehouse entrance is in a fenced and locked area; the reagent area with high strength cyanide solution is located within a fence and access is controlled. Valves related to storage of liquid cyanide are locked. Signs prohibiting unauthorized entry are posted. At the time of the audit, the mixing and storage tanks and pumps located in the cyanidation plant had unsecured valves that allowed direct access to reagent-grade cyanide solutions. During the site visit, La Coipa proceeded to block these valves, eliminating accidental spills of high grade cyanide solution.

La Coipa does not store any other chemicals, explosives, food, animal feed or tobacco products in the cyanide storage warehouses other than cyanide. Powdered zinc is the only other substance stored in a warehouse adjacent to the solid cyanide storage facility.

No smoking, drinking or eating is allowed within the cyanide storage areas. The auditor observed that there were no other materials stored in the cyanide warehouse other than response supplies. The cyanide mix and distribution tanks are located within a separate concrete berm and sump area, no other reagents besides cyanide is stored inside this area. By visual inspection, the auditor confirmed that the system would prevent mixing of other reagents in the event of spills.

### Standard of Practice 3.2

*Operate unloading, storage and mixing facilities using inspections, preventive maintenance and contingency plans to prevent or contain releases and control and respond to worker exposures.*

The operation is  in full compliance with  
 in substantial compliance with Standard of Practice 3.2  
 not in compliance with

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

La Coipa receives solid sodium cyanide briquettes in Ecopacks, an Intermediate Bulk Container (IBC) with a primary packaging in a polypropylene super-sack filled to 1 ton. The super-sack is then placed in a polyethylene bag to protect the material from water and humidity and finally the packaged material is placed in the Ecopack. La Coipa has written procedures for the management and rinsing and disposal of the empty super-sacks, I-CN-010 Cyanide preparation and I-CN-117 Removal of cyanide packaging. A cyanide mix was observed to verify that the operation is following its procedures for mixing and disposal of the cyanide boxes and super- sacks (bags).



Cyanide super-sacks, plastic bags and Ecopacks are accumulated outside the cyanidation plant bay and transported daily to a dedicated warehouse holding area for hazardous waste; disposal is contracted to a licensed hazardous waste hauling and disposal company based in Antofagasta. In occasion of the site audit the licensed contractor was Disal. The auditor reviewed the Declaration of Hazardous Waste, according to the Hazardous Waste Declaration and Monitoring System (SIDPRES) of the Chilean Ministry of Health.

At the time of the audit, the mine was not washing the empty bags, however, the operation did show prototypes of the design they were considering installing. Soon after the audit site visit, La Coipa sent pictures of this system installed. A bag rinsing arrangement was installed on the super-sack cutter arrangement in the hopper of the primary mixing tank; rinsewater is directed into the mixing tank. The spray arrangement involved multiple fixed. At the same time, La Coipa sent the work instruction I-CN-010 Cyanide preparation reflecting the changes in the procedure. No additional information was required to find this in full compliance with the Code requirements.

As mentioned above, empty Ecopacks are dismantled and accumulated at the entrance of the mixing bay and transported at least three times a week to a dedicated warehouse holding area for hazardous waste for final disposal in Copiapó by Disal, a licensed hazardous waste hauling and disposal contractor, according to instruction I-CN-117 Removal of cyanide packaging.

La Coipa does not return any cyanide containers to the vendor.

The operation has developed the procedure Operation of the Cyanide Warehouse and the work instruction I-CN-010 Cyanide preparation, to prevent exposures and releases during cyanide unloading and mixing activities. These outline the requirements for inspection, manipulation and mixing of cyanide. The work instruction address the maintenance of the valves and couplings. Instruction for cyanide preparation includes directions for the operation of critical valves related to the addition of caustic, raw water and connection with the storage tank and operation of valves and couplings during the mixing. La Coipa conducts a safe work risk analysis before cyanide is moved from the warehouse to the process plant and before preparing cyanide solution. The area supervisor conducts a meeting with the two workers to perform this task before a mix event and reviews the mixing procedure.

Both procedures Operation of the Cyanide Warehouse and Cyanide preparation, have specific instructions that address the safe transport of cyanide and manipulation of the super sacks. Traffic is controlled around the unload area using traffic cones and the presence of Security Personnel.



The procedure Operation of the Cyanide Warehouse specifies a maximum stacking height of two Ecopacks in the warehouse. In addition, the operation has posted signs limiting the stacking height in the warehouse.

The work instruction I-CN-010 Cyanide preparation includes written procedures that address the prompt clean-up of solid cyanide spills during mixing. Any liquid spills or leaks within the concrete containments must be pumped from the mixing area sump back into the process circuit. Operators are trained to hose down the spill areas immediately.

The Cyanide preparation work instruction requires personnel to wear Personnel Protection Equipment (PPE) during mixing activities, including resistant gloves to chemical substances, full face respirator with mixed filter dust and gas, safety helmet, hearing protectors, portable HCN gas sensor, suit with hood protection class B o C – protects workers from penetration of fluids and particles-, two way handy radio and waterproof boots.

The procedure requires the operator who prepares cyanide solution must always be assisted by another person, who will help in the development of the work, and will cover mutual care in case of emergency. With the mixing operator is located up in the platform, the other operator helps at floor level, maneuvering the Ecopacks and a third worker as observer from a safe place. The auditor observed a cyanide-mixing event during this audit, confirming the wok instructions were as properly followed.

Red colorant dye comes inside the cyanide bags in a concentration that provides for clear visual identification. The auditors inspect the mixing area for evidence of spillage, such as dyed cyanide solution outside of the mix tank, or cyanide briquettes on top of mix tank or in gratings of adjacent platforms, not finding evidence of spills, confirming that clean-up procedures are being implemented.

Implementation of all these procedures was verified by observation and interviews with the personnel responsible for performing these tasks.



## Principle 4 | OPERATIONS

Manage cyanide process solutions and waste streams to protect human health and the environment.

### Standard of Practice 4.1

*Implement management and operating systems designed to protect human health and the environment including contingency planning and inspection and preventive maintenance procedures.*

The operation is  in full compliance with  in substantial compliance with  not in compliance with Standard of Practice 4.1

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

La Coipa has written plans and procedures for operating its cyanide facilities in a manner which protects its workers and the environment. Since the Code defines Process Solution as any solution with a concentration of 0.5 mg/l Weak Acid Dissociable (WAD) cyanide or greater, the following are the cyanide facilities identified in the operation, as mentioned in the introductory part of this report:

- mills (one SAG mill, two ball mills, mill thickener tank, three solution tanks, associated equipment and facilities);
- cyanide warehouse for solid cyanide storage;
- cyanide mixing facility: one primary and one reserve mixing tanks, and one storage tank;
- cyanide leach circuit (8 carbon in leach -CIL- tanks);
- pregnant solution tanks (2); Barren solution tank;
- counter-current decantation (CCD) thickener tanks (3);
- clarifying cones (2);
- process tanks (44 total, including those mentioned above);
- filtration plant;
- overland belt conveyors (for tailings disposal);
- dry stack tailings storage facility (TSF);
- mill pond, refinery pond, emergency pond and remediation pond;
- concrete secondary containments; and
- associated pump/pipeline systems for all facilities listed above.

Procedures, work instructions and plans for operating its cyanide facilities reviewed are:

- I-CCD-014 CCD thickeners operation



- I-CCD-024 Flocculant dosing
- I-CCD-030 CCD Operation with emergency power
- I-CCD-036 Plant general detention CCD-LIX
- I-CCD-044 Thickeners recirculation CCD
- I-CCD-088 CDD start-up - stop
- I-CCD-124 Thickeners pump discharge operational change
- I-CN-003 HCN emissions control
- I-CN-004 Cyanide spill
- I-CN-008 Cyanide pond cleaning
- I-CN-010 Cyanide preparation
- I-CN-016 Cyanide dosing pump change
- I-CN-087 Leaching tanks cleaning
- I-CN-117 Cyanide containers recall
- I-LX-005 Lime slurry addition
- I-LX-049 Pulp control TPH (tons per hour) fed
- I-LX-051 Agitator pond N°8 operation
- I-LX-087 Leaching start-up - stop
- I-LX-091 Cyanide free leaching control
- I-LX-122 Samples cutter operation
- I-RE-501 I Refinery and emergency pool operation
- P-DE-021 General power outage
- P-MA-012-V011 Water monitoring
- P-MA-018-V000 Cyanide facilities decommission
- P-MA-022-000 Contingency plan for temporary mine closure
- P-MA-028-V0 Ponds monitoring and inspection
- Without number Procedure for the cyanide warehouse operation

The auditor reviewed these procedures and plans, interviewed plant operators, maintenance area and environmental personnel, verifying that La Coipa understands how to manage cyanide in a manner that prevents releases to the environment and exposures to workers and the community.

These documents are adequate to provide measures to protect human health and the environment as they describe cyanide-related safe work practices. The auditor reviewed the operation's written operating plans and procedural documents confirming that they address the safe operation of all cyanide facilities. Implementation of the plans and procedures was confirmed through inspection of these activities and interviews with the personnel responsible for performing these activities, and review of available documentation.

La Coipa operational plans and procedures provide the link between its design and the necessary operational practices. The site's operating plans and procedures, reference



the assumptions and parameters on which the design was based, as well as applicable regulatory requirements related to prevention of cyanide releases and exposures, to allow the operation keep track of why it is operating according to a specific plan.

The major parameters included in the tailings operating plans and procedures are, among others:

- Maximum volume for the emergency pond has been set to 90%
- Free board for the mill pond is one meter, for the refinery pond is set to 0.5 m
- Operating pH 11.5 for cyanide solutions to avoid the formation of HCN gas
- HCN gas levels at 4.7 ppm (parts per million) requires stop the works until gas levels drop.
- Rahco dry tailings water content of 20% or less for tailings sent to the dry stack TSF
- TSF outside slope of the bench governed by the angle of repose of the material, which is approximately 30 degrees.

The auditor confirmed compliance reviewing the operating plans and procedures confirming inclusion of these major parameters, and by interview with personnel responsible for the operation and maintenance of the facility. Personnel showed good awareness of these parameters.

The operation's work procedures and plans listed above addresses those aspects of the operation that are necessary for protection of workers, communities and the environment. Specific items addressed include preventive maintenance programs for critical equipment, inspection programs for cyanide facilities such as process tanks and pipelines, and ponds. La Coipa has management plans for water monitoring, contingency plan for temporary mine closure and inspection programs, among others.

Work procedures and management plans address all aspects of the facility, including operational control, environmental, health and safety topics, preventive maintenance, water balance, and inspection processes for equipment, secondary containments, environmental media, and wildlife protection. Procedures were available for normal and upset or emergency operating conditions.

The procedures provide the protocol for managing process solutions and maintaining the associated containment facilities within the process areas (i.e., the containments, pumps, drains and valves) in good conditions, for inspecting the available pond capacities monthly. Procedures outline the corrective actions required for ensuring that adequate storage capacity is maintained in the emergency pond to retain process solutions during upset conditions. .



La Coipa has a preventive maintenance for critical equipment managed using JD Edwards software. Preventive maintenance and calibration plans are generated automatically for the specific frequency of the equipment. Work orders generated from inspection forms are entered in the system, including assigned priority.

The auditors reviewed inspection programs and records verifying inspection are performed. Procedures and management plans were reviewed and were found to be appropriate for the operation and fully implemented.

La Coipa has a formalized corporate procedure for managing of changes (MOC) to the production processes or operating practices. The purpose of the procedure is to ensure that systematic processes are in place to evaluate any changes at the plant so that the risks of incurring negative impacts to people, environmental, property, or product quality are minimized. The procedure identifies changes to the facility or its operating practices that may increase the potential for cyanide releases and worker exposures before such changes are implemented so that they can be evaluated and addressed, as necessary.

The procedure requires notification to environmental and safety personnel and sign offs by these departments, among others, before the change can be instituted is the best way to address this. The environmental and health and safety reviews are guided by a detailed checklist.

For example, the auditor reviewed a completed MOC carried out April 11, 2023 where the cyanide storage in Ecopacks was changed from a provisional warehouse to the new warehouse which had just received the approval resolution as such by the Chilean authority. The MOC checklist includes a risk assessment and the signatures of health, safety and environment representatives, among others.

Another example of change management carried out was on February 16, 2023 where it was ordered that the amyl nitrite antidotes be removed from the first aid kits located in the plant area and that only oxygen be kept since the proximity of the polyclinic defined that the first aid action in the field will be oxygen therapy.

Verification was through review of the procedure online as well as completed forms that have been signed off by environmental and health and safety personnel and review of its dissemination through Power Point presentations and attendance records to among the interested areas.

La Coipa has implemented contingency procedures for the process plant and tailings storage facility to respond to problems identified by monitoring and inspections, and to address temporary closure of the operation.



Procedures P-MA-012-V011 Water monitoring and P-MA-028-V0 Ponds monitoring and inspection, describe upset in the operational water balance that could present a risk of exceeding the design containment capacity of the emergency pond, although the mine site area is extremely dry.

Procedure I-CCD-036 Plant general detention describes step-by-step measures for stopping and starting the plant facilities; procedure P-DE-021 General power outage provides response measures for emergencies related to failures of cyanide equipment in case of power outages.

The management plan P-MA-022-000 Contingency plan for temporary mine closure, provides measures to take for an unplanned temporary closure. The plan includes requirements to continue ongoing maintenance and inspection of the entire process plant, dry stack tailings facility, and to ensure that the integrity of all pipelines, trenches, diversion structures, berms, embankments emergency pond and are maintained.

Plant Stoppage for Power Outage (Procedure I-CM-008) provide the procedures for operating the crushing/milling and process plant facilities, respectively, during periods of primary power outages. During periods of primary line power outages, crushing and milling equipment is shut down and only critical equipment in the process circuit is operated, via diesel-powered emergency generators.

Other cyanide management contingency procedures reviewed for non-standard operating situations that may present a potential for cyanide exposures and releases are:

- I-CCD-088 CDD start-up - stop
- I-CN-003 Hydrocyanic acid emissions control
- I-CN-004 Cyanide spill
- I-CN-016 Cyanide dosing pump change
- I-LX-087 Leaching start-up – stop

The control room operator and process plant operators demonstrated knowledge of the contingency shutdown procedures for safely ceasing operations in the processing plant in the event that there is a threat of process water release. The procedures for the plant are adequate to respond to upsets in water balance, problems identified by inspections, and to address temporary closure of the operation.

Plant operators and supervisors inspect the unloading, storage, mixing and process areas. The Operations Department conducts general inspections to the plant on a weekly basis. All supervisors at La Coipa must perform inspections. They use the Previsis





platform, an integrated software for occupational health and safety and sustainability of operations. With this purpose have been trained in Kinross headquarters at Copiapó.

The Cyanide Code Inspection Program indicates all inspections areas and frequencies. If there is an observation, the inspector generates a job request. Track of inspection findings is performed in an Excel worksheet which includes the Work Order number and status.

La Coipa inspects the at unloading, storage, mixing and process areas, as detailed below:

The Operations Department conducts weekly inspections to the plant, which include visual inspections of process tanks holding cyanide solutions for structural stability, leaks and corrosion. These inspections are documented on a checklist recordings observations regarding cracks, perforations, corrosion, filtration, presence of fluids, dents, connections, man entry, operating level sensor, paint and signage. The Maintenance Department perform ultrasonic thickness testing on the tanks according to the American Petroleum Institute (API) 650 standards, according to an inspection program and maintenance. Tanks at the cyanide preparation building are inspected every time cyanide is prepared, which is almost daily. Operations personnel interviewed indicated they perform daily general visual inspections of the process tanks for signs of corrosion and leakage.

The Operations Department conducts weekly inspections to the concrete secondary containments for structural integrity and available capacity. Inspection checklists include verifying the presence of fluids, available capacity, that drains are closed and locked, to prevent accidental releases to the environment. Inspection records reviewed confirmed that containments with accumulated sediment, solution or damaged and deteriorated concrete are being identified and reported for corrective action. Nonetheless, during the onsite audit, several concrete containment walls and pavement were deteriorated and required repair.

After the audit, as described in Standard of Practice 3.1, La Coipa sent pictures of these elements fixed and in compliance with the Code requirements. A summary of the work performed to repair damaged concrete in in the secondary containments, the cyanide discharge ramp and its maneuvering yard is documented in a report prepared by the contractor MKL Ingeniería y Construcción titled, Contract B3 Service Cyanide Code leaching. The report documents the construction techniques and materials used to perform the repairs. The repair work consisted of:

- cleaning surfaces and reinforcement using a blower and washing the area to be worked with water;



- application of fresh concrete structural adhesive with hardened concrete Sikadur 32 Gel on smaller damaged areas and then apply mortar.
- application of Cave Tecnobond adhesive to give adhesion to the mortar in vertical elements and the crown of secondary containment;
- application of paste outer wall for cracks that may remain in the application of the mortar;
- application of Pasticem, plastered coating of high resistance to weathering based on acrylic resin formed by mixture of Pasticem plus cement, to repair cracks; and
- application of yellow synthetic anticorrosive paint protector of industrial concrete surfaces for their completion.

The Environmental Superintendence of the Environment is responsible for ensuring that monitoring and inspections are carried out to the ponds according to the procedure P-MA-028-V0 Ponds monitoring and inspection. The procedure applies to refinery, mill and emergency ponds, monitoring for Weak Acid Dissociable (WAD) CN concentration, presence of solution between liners, condition of the ponds liners and perimeter fence, presence of fauna in ponds and bird deterrent system.

Weekly measurements of the possible levels of solution between liners are made. This measurement is carried out by environment personnel. The measurement is made in the duct located in the pools between folders, inserting a well meter to detect the presence of water between liners. This activity is only valid for the emergency and refinery pools, since the mill pond is made of cement slab covered with High-Density Polyethylene (HDPE). Measurement data is recorded in the register F-MA-027 "Monitoring between liners". In case any solution is detected, will extract all the solution and measure again next day. The procedure considers the complete emptying of the pond, the liners inspection and repair of the surface. The auditor reviewed the ponds inspections completed checklists which include visual check for any sign of breakages in the liners, for salts or leakages in the pumps, pond level and piping condition to check for leaks, corrosion or wear, among others. La Coipa does not have leach pads. The dry stack TSF is inspected for ponding presence each time dry tailings are stacked.

The Operations Department weekly inspections to the plant include in the inspection checklist documenting routine inspection of the pipelines, pumps and valves by Operations personnel. The Maintenance Department generates weekly planning programs for both mechanical and electrical systems, which include inspections of pipes, valves and pumps, and related instrumentation such as automatic tank level indicators.



Level in the emergency pond is the primary control for maintaining the operational water balance. This pond level is continuously monitored online in the control rooms. Additionally, the plant Operations Department conducts daily inspections of the Emergency Pond level for use in maintaining the water balance. Due to the extremely dry conditions at the site, La Coipa does not have surface water diversions or other stormwater controls other than a rock-filled channel along the west edge of the TSF, which serves to channel snowmelt around the dry-stack facility.

The auditors reviewed inspections records and verified these are being completed on an appropriate frequency and according scheduled in the mine's Cyanide Code Inspection Program. Also, conducted field inspections during the site visit, verifying the condition of tanks, secondary containments, pipelines, pumps, valves and TSF.

La Coipa conducts frequently inspections enough to identify potential problems before they present a risk of cyanide release or exposure, according to their Cyanide Code Inspection Program. Which was found to be sufficient to assure that the operation is safe and functioning within design parameters. The auditor reviewed the inspection records verifying inspections were done in a consistent manner and recorded.

The inspections are documented at La Coipa on completed inspection forms, which include the date and time of the inspection, the name of the inspector, a description of the deficiency, the required corrective action, and general observations. The nature and date of corrective actions are also documented along with the inspections record. Issues identified during all inspections requiring corrective action are recorded on form Operational Inspection for entry into the Report of Incident program, which is used to report and track all major incidents occurring on site through completion of corrective actions. La Coipa retains the Operational Inspection forms in hard copy format and the Incidents reports in electronic format within the JD Edwards database.

The operation has a preventive maintenance program (PM) for its cyanide facilities where a failure can result in a cyanide release or exposure. The program is used to perform the necessary maintenance and inspect the integrity of process equipment, piping and tanks, according to a maintenance program and every time is needed to keep equipment and installations properly working. In addition to the preventative maintenance program of the pumps, La Coipa has redundant pumps for the critical cyanide pumps.

The PM schedule provides a listing of the equipment along with the planned schedule for maintenance. The PM system is managed using JD Edwards software, which automatically produces PM work orders on an established schedule. The system identifies future activities for regular PM and includes information on the task requirements and completion. The software is used to generate and retain all



documentation for programmed maintenance work. Corrective maintenance activities are documented by work orders, which are generated manually and electronically.

The Maintenance Planner generates weekly planning programs for both mechanical and electrical systems. The planning programs include maintenance inspections, PM schedules, predictive maintenance, lubrication and any corrective maintenance requirements identified by operational and maintenance inspections. Maintenance considers mechanical, electrical and process control areas-

Maintenance inspections incorporate checklists for pumps and valves. Although process tanks and pipes are inspected visually, checklists do not document observations according to La Coipa personnel. Electrical Maintenance performs monthly checks of the automatic tank level indicators and alarm systems installed on the two cyanide mix tanks and the cyanide storage tank.

The auditor inspected the cyanide facilities, reviewed maintenance records and interviewed employees determining compliance with this provision. The operation maintenance system appears to be sufficient for preventative, corrective and predictive maintenance of cyanide facilities at La Coipa operation.

La Coipa has two Cummings generator sets that can operate in parallel, providing a total of 2.8 megawatts of installed power, which are used to power critical equipment during power outages from public supply. The generators are housed inside the powerhouse building. La Coipa starts the generators and tests the electrical systems weekly. The generators are serviced based on hourly use.

Critical equipment operated during primary power outages includes tank agitators, the leach circuit, filtration plant, refinery, pond systems, the groundwater remediation system, the mill thickener and most pumps. Approximately 1.6 megawatts (MW) is required to power the critical equipment.

During this onsite audit, maintenance records for the emergency generators were reviewed as verification. These include a summary of PM guidelines for the generators, corresponding work orders, and the powerhouse inspection journal, which documents services performed on the emergency generators.

La Coipa has the written procedure P-DE-021 General power outage to establish the preconditions to launch the generators, and to ensure the leader of the maneuvers by the communication channel is a single person and whoever coordinates with other power plants to avoid accidents or damage to property. The procedure I-CCD-030 CCD



Operation with emergency power detail the actions to be taken in order to restart CCD operations with emergency power.

The auditor reviewed maintenance records verifying that the operation maintains and tests this equipment as necessary to ensure that it is functional if and when needed.

Standard of Practice 4.2

*Introduce management and operating systems to minimize cyanide use, thereby limiting concentrations of cyanide in mill tailings.*

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

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

The mine has an ongoing program to determine if the standard rate of cyanide addition in an ore processing facility is sufficient, but no greater than that required, to optimize gold and silver recovery. The auditor confirmed the operation has implemented this program.

The work instruction Free CN Control in Leaching details how to control the concentration of free cyanide in the leaching area, to ensure the leaching efficiency, taking into account the elements that affect it such as copper and zinc, in addition to maintaining a dosage that allows an efficient consumption of cyanide. The addition of cyanide is carried out in normal operation, in the agitator tank No. 1 automatically, and eventually, according to the operational need, by detection of high concentrations of copper or zinc contained in the mineral fed to the plant, it can be dosed in the agitators' tanks No. 1 and 3.

The operation identifies anticipated changes in the characteristics of the mineral fed to the mill and modifies the cyanide addition rate accordingly. Two hours before the ore is dispatched to the plant, geologists report the type of material that will enter, to prepare cyanide dosing. Dispatch area also sends information to the plant about the material to enter; if there is high copper content they prepare to properly dose cyanide. Mine and plant operations meets weekly with the geo metallurgy area to coordinate the type of material to be sent, in order to keep the metallurgical variables better controlled.

The operation has implemented a manual program for sampling and analysis of tailings to determine residual cyanide levels and to allow for the adjustment of addition rates



in real time as necessary to maintain optimal dosing. The plant samples free cyanide every 3 hours and by titration they calculate WAD cyanide. The laboratory sends the results to metallurgy and operations. Metallurgy communicates with operations to control CN dosing. The operation has in-line free cyanide analyzers, installed at the entrance of agitator tank N°1 and N°3. They plan to install automatic cyanide dosification.

The auditor reviewed the work instruction Free CN Control in Leaching, reviewed emails coming from the lab to everyone involved in the correct addition of cyanide to take action if necessary, the monthly test results, and by interview with the Superintendent of metallurgy, confirmed La Coipa has implemented a program to evaluate cyanide use and adjust the addition rate to minimize its use.

#### Standard of Practice 4.3

*Implement a comprehensive water management program to protect against unintentional releases.*

The operation is  in full compliance with  
 in substantial compliance with Standard of Practice 4.3  
 not in compliance with

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

La Coipa has an adequate comprehensive and probabilistic water balance model developed in Excel as a predictive tool that allows the mine to manage cyanide solutions in real time to account for foreseeable precipitation events, although the area is extremely arid. The auditor reviewed the water balance which considers the appropriate factors, and confirmed the site implements the necessary practices to maintain the balance on an ongoing basis.

The model considers as inflow parameter, ore moisture, freshwater makeup, recycled water from the groundwater Remediation Area (pumped from the Rahco Pond), and direct precipitation (i.e., no runoff). Outflows parameters are the tailings moisture and tailings evaporation losses.

The volume of the Emergency Pond is 55,000 m<sup>3</sup> with a fill factor of 90% at the design maximum water level. On a monthly basis, the water balance model is used to simulate the maximum allowable operating level in the Emergency Pond such that adequate capacity is maintained to retain the capacity of plant upset overflow volumes and the volume of the millennium storm event.



The model forecasts the volume of the emergency pond, its maximum allowable operating volume, the volume resulting from the design storm event and the estimated time to fill it. The model also forecasts the required freshwater demand.

The auditor reviewed the water balance model, data records and interviewed the mine personnel responsible for the water balance confirming that the parameters used in the water balance modeling were being continually monitored and maintained as part of the operations.

La Coipa water balance considers the following in a reasonable manner:

- a) The rates at which tailings are deposited into the tailings storage facility from the process plant is calculated from the production values (as solid material) and the solid content of the tailings. This rate can be varied in the model if needed. Parameters considered include the milling rates, the tailings deposition rates, process tank inventories and pond levels. Dewatered tailings, with a moisture content of approximately 20%, are deposited in the dry-stack TSF at the planned rate of 700 tonnes per hour (tph). The auditor reviewed historical data verifying moisture content in tailings has been dropping from 22% to 18.7%, depending on the ore that is so filterable. The model is maintained and updated monthly by the Metallurgy Department. La Coipa does not have leaching pads.
- b) La Coipa has considered the design storm duration and storm return interval that provides a sufficient degree of probability that overtopping of the ponds and tailings storage facility can be prevented during the operational life of the facility. The operation uses the millennium 100 mm/day storm to forecast water management requirements, although the water balance model can be used to evaluate conditions for variable storm events as well. According to the pond design, it would have the capacity to withstand 10 days.
- c) The quality of the on-site existing precipitation and evaporation data is representative of actual site conditions. La Coipa collects precipitation data instantaneously at a meteorological station located next to the emergency pond and inputs the data into the water balance model monthly. Evaporation is calculated monthly as a percentage (1%) of the freshwater added to the process, water recycled from the remediation area, and the moisture content in the ore.
- d) The area is extremely arid, with a maximum monthly rainfall rate of 4.8 mm/month and annual average of 16.6 mm/year. The water balance model only accounts for direct precipitation falling within the footprint of the process facilities. La Coipa personnel indicated that stormwater quickly infiltrates into the ground.



- e) There is no watershed above Coipa, the operation is about 4,200 meters above sea level. Consuming 3,000 to 2,500 m<sup>3</sup>/day, any accumulation of solid precipitation would be used for the plant's operating system. The water balance model does not account for the effects of freezing and thawing. La Coipa personnel indicated that snow accumulation within the footprint of the process facilities (and over the entire site) is insignificant. La Coipa does not employ heap leach processing methods
- f) Evaporation is taken into account in the water balance model, an evaporation rate of 51 mm/month is considered in the model. Evaporation and the moisture content of the tailings are the only solution losses accounted for by the model. La Coipa TSF is a dry-stack facility. The groundwater collection and remediation facility –the remediation area- located directly downgradient of the TSF, collects any seepage from the TSF and returns it to the process.
- g) The model does not consider the effects of potential power outages and equipment failures. The operation has two diesel-powered emergency generators, which are used to power critical equipment during primary power outages. Critical equipment includes tank agitators, most pumps, the leach circuit, filtration plant, refinery, pond systems, the groundwater remediation system, and the mill thickener.
- h) La Coipa does not have direct discharges of process solutions to surface waters.
- i) The model does not consider any other aspects of the operation that can affect the water balance, since La Coipa considers no additional parameter is critical given the nature of their milling operation and since instead of operating a tailings dam, they have a dried stack TSF.

The water balance and design documents for the emergency pond specify a minimum freeboard over the design storage capacity, equivalent to 90% which is 55,000 m<sup>3</sup> at the design maximum water level of its volume. Water entering the system is around 30,000 m<sup>3</sup>/month. The solution level in the emergency pond is the primary control for maintaining the operational water balance. This pond level is continuously monitored both manually and online in the refinery and filtration plant control rooms. The balance is provided to shift supervisors daily.

On a monthly basis, the water balance model is used to simulate the maximum allowable operating level in the emergency pond using a worst-case scenario. Adequate capacity is maintained in the pond to retain the capacity of plant upset overflow





volumes (using the maximum solution inventory in the plant) and the volume of the millennium storm event, while maintaining the pond at 90% of its capacity.

The auditor reviewed the operation's inspection records verifying that this facility is operated with its design parameters.

The operating procedure P-MA-028 Ponds monitoring and inspection requires daily inspection to the ponds and monitoring activities necessary to ensure that the operation follows its water balance. This include, among others, monitoring the solution volume in the emergency pond, including the refinery and mill ponds.

La Coipa has developed and implemented a water balance procedure (I-ME-097), which provides the protocol for collecting and understanding the input data, administering the model and presenting the results to the environmental manager monthly. This procedure includes the requirement for the operations shift supervisor to measure solution levels in the ponds, CIL tanks and CCD thickeners at the end of each month. This process inventory data is obtained from the Report of Adjusted Production, which consists of the measured levels at the start and end of each month. The water balance procedure includes a formal contingency plan that provides clear guidance for the actions necessary to address upset conditions as when the solution level in the emergency pond is above the maximum operating level identified by the water balance model. The procedure includes specific corrective actions for reducing the freshwater input to the system until the water levels are returned to normal operating conditions. Necessary adjustments are based on daily, weekly and random monitoring of solution inventories.

The auditor reviewed the facility's operating plans and procedures and inspection records, verifying inspections and monitoring activities are being conducted.

The operation's environmental area collects precipitation data at the site's meteorological station located next to the emergency pond and inputs the data into the water balance model monthly, comparing it to the design assumptions used to develop the water balance model. The data compiled by the external contractor Algoritmo, is used to recalibrate the water balance model on a monthly basis.

The auditor reviewed the monitoring data from the on-site meteorological station and the external contractor monthly reports, determining the information to be complete.



#### Standard of Practice 4.4

*Implement measures to protect birds, other wildlife and livestock from adverse effects of cyanide process solutions.*

The operation is  in full compliance with  
 in substantial compliance with Standard of Practice 4.4  
 not in compliance with

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

WAD cyanide is below 50 mg/l in the ponds at La Coipa, no other open waters is in the operation. No livestock is in the surroundings of the mine site, the nearest population is Collas indigenous community about 50 Km far. Nevertheless, the operation has installed perimeter fences in the 3 ponds: milling, refinery (the only one that should have open water solutions). These ponds are surrounded by four-foot high, wire mesh fencing to restrict access by terrestrial wildlife. The ponds have an access gate appropriately signposted, indicating the prohibition of entry of unauthorized personnel to that area. The entrance gates are closed and personnel must request authorization from the refinery supervisor for access, s by radio channel number 5. There are also electronic birds' deterrents installed.

During this audit, the pond at the exterior of the mill (mill pond) was completely dry, the refinery pond was full and the emergency pond contained a small amount of solution due to instability of the system given the age of the pump system and the complex mineral to be able to filter it. They were working to fix this issue according to an action plan and were already pumping the solution back to the process. According to the work instruction I-RE-501 Refinery and emergency ponds operation, if there is overflow towards the emergency pond, an action plan must be generated for the removal of the solutions, and their immediate emptying should be a priority.

The auditors inspected the ponds areas, interviewed the operations and environmental personnel, verifying that each pond is completely surrounded by fencing; some sections of these fences were under repair during the site visit, but in general were in acceptable conditions. The auditors reviewed completed inspection forms performed monthly, according to the operation inspection program. Inspection records include checking for conditions of the perimetral fence and gate, and for the birds' deterrent conditions.

The mine showed analytical data from external laboratory ALS Life Sciences Division | Latin America Environmental Services Chile (ALS), demonstrating that the ponds solution is well below 50 mg/l WAD cyanide. The auditors reviewed analytical water



quality data results from the emergency, mill and refinery ponds performed by ALS on February 25, March 11 and March 25, 2023.

The results of ALS external laboratory of cyanide concentration in open water are show below.

Pond	Minimum WAD CN (mg/l)	Maximum WAD CN (mg/l)	Average WAD CN (mg/l)
Refinery	0.115	1.120	0.468
Mill	0.141	0.141	0.141
Emergency	0.080	0.231	0.149

The methodology used WAD CN testing is Method based on Standards Methods for the Examination of Water and Wastewater, 23rd Edition 2017 4500-CN. CM 26248: (Internal Code of the Analysis Method of ALS Life Sciences Chile S.A.)

ALS is an accredited laboratory with the National Accreditation System of the National Institute of Standardization (INN) of Chile, as a testing laboratory according to Chilean Standard (NCh[Chilean Norm]) NCh-ISO (International Standardization Organization) / IEC 17025: 2017 in the physical-chemical area for water, with accreditation validity from: July 21, 2022, until July 21, 2027.

The auditor reviewed the custody chain field records for the water samples collected by ALS and their results reports, confirming that WAD cyanide values in open waters of the operation are well below the limit of 50 mg/l.

La Coipa has been successful at preventing wildlife mortality. They had zero cyanide-related wildlife mortalities since restarted operations to the time period of this certification audit. La Coipa maintains a formally documented wildlife protection and monitoring program. In addition to the monthly inspections to ponds, operations conduct daily visual inspections of the ponds that include observation for wildlife. The program and complete wildlife inspection forms were reviewed during this recertification audit. The auditors interviewed personnel responsible for the program.

The operation does not apply leach solutions on heap leach pads.



## Standard of Practice 4.5

*Implement measures to protect fish and wildlife from direct and indirect discharges of cyanide process solutions to surface water.*

The operation is  in full compliance with  
 in substantial compliance with Standard of Practice 4.5  
 not in compliance with

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

La Coipa does not have any direct or indirect discharge to surface water. Surface water in the vicinity of La Coipa is ephemeral, flowing only in response to rainfall; there are no perennial surface water features such as springs, rivers, or lakes immediately down gradient of the process plant or the tailings facility.

The nearest surface water body is more than 40 kilometers downstream from La Coipa and although the operation does not have direct discharges to surface water, they monitor surface water at three points downgradient from the operation.

There are no downgradient perennial streams or other surface waters located within the area of the operation. The Quebrada La Coipa is an ephemeral drainage, which flows only in response to direct precipitation and snowmelt. Nevertheless, the operation monitors surface water in three points downgradient from the operation: Sector Quebrada La Coipa, Sector Tranque and Infiltration. The results are reported by the external laboratory ALS, the values are below 0.022 mg/l of free cyanide.

Aquatic life is not known to exist downgradient of the La Coipa operation. The operation indicated there is not a regulatory numerical standard for cyanide in surface water, nor is there a designated beneficial use of surface water downgradient of the site.



#### Standard of Practice 4.6

*Implement measures designed to manage seepage from cyanide facilities to protect the beneficial uses of groundwater.*

The operation is  in full compliance with  
 in substantial compliance with Standard of Practice 4.6  
 not in compliance with

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

The operation has developed and implemented the work procedure P-MA-012 Water monitoring, with the guidelines to follow for the proper execution of its superficial and groundwater water monitoring program, methodology and reporting. The operation monitors groundwater for total cyanide in wells associated with the remediation area. The use of groundwater is for public use, mainly used by the communities that are in the sector. According to Chilean standard DS 46, the maximum limit allowed for groundwater is 0.2 mg/l free cyanide.

La Coipa has implemented measures for protecting groundwater quality, to manage seepage to protect the beneficial use of groundwater and implemented measures to accomplish this goal. La Coipa has a groundwater remediation system that is currently functioning to capture and treat contaminated groundwater downgradient of the TSF. Mercury is the primary contaminant that the system nonetheless, cyanide is also a constituent of concern.

The values obtained from laboratory tests since La Coipa restarted operations till the site audit, range from 0.04 to 0.10 mg/l of total cyanide. The contractor Cesmec performs the field monitoring, ALS is the main laboratory and the Hidrolab and Cesmec laboratories are for counter-sample.

The auditor reviewed the work procedures, the water monitoring program and the laboratory analytical data results, verifying that total cyanide concentrations in groundwater are below the established the maximum limit allowed. The auditor interviewed the site personnel, confirming controls are consistently in place.

The operation monitors groundwater in the representative monitoring well MDO 131 located about 12 km downgradient of the site, with results average of 0.10 mg/l total cyanide, which is below levels that are protective of identified beneficial uses of the groundwater – 0.2 mg/l designated beneficial use of groundwater for irrigation in agriculture.



La Coipa does not use mill tailings as underground backfill.

La Coipa is currently operating a groundwater remediation system -due to mercury concerns- to prevent further degradation of groundwater downgradient of the TSF. As indicted above, total cyanide concentration in groundwater quality samples were in average 0.10 mg/l.

There is no indirect discharge by the operation. There is no record of aquatic life downstream of the La Coipa operation. For surface water we rely on the requirements of the Cyanide Code, pools are the only surface waters in operation. And the nearest town is 40 km away.

#### Standard of Practice 4.7

*Provide spill prevention or containment measures for process tanks and pipelines.*

The operation is  in full compliance with  
 in substantial compliance with Standard of Practice 4.7  
 not in compliance with

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

All cyanide storage, mixing and process solution tanks are installed within concrete secondary containment, which conform containment areas surrounded by curbs and parapets, providing competent barriers to seepage. Many of the concrete containments are interlinked and feed to the synthetic-lined pond system, which provides supplemental containment.

The process water tank at the Rahco pond at the TSF is located directly adjacent to the lined pond and within the groundwater capture system (between the cutoff walls) at the remediation area. The tank sets on a continuous concrete foundation forming an impermeable barrier between the bottom of the tank and the ground. Any spillage from the tank would flow directly to the lined pond.

Twenty-four of the 44 process tanks are secured to solid, reinforced concrete plinth (pedestal-type) foundations. The remaining 20 cyanide process tanks have concrete ring-beam foundations with compacted structural fill in the center area topped with a sand leveling layer. These 20 tank foundations were provided with leak collection and recovery system for the tank foundations, which consist of two, 2-inch diameter, perforated polyvinyl chloride (PVC) pipes inserted into the center area of the concrete ring-beam foundations. The leak detection pipes have a capped PVC riser on the exterior of the foundation to allow for monitoring. The system design and completed work is documented in a report prepared by the contractor MS Templo Ltda. titled,



“Leak Detection Systems in Floor Supported Tank Foundations,” dated May 13, 2011. The operation procedures include routine monitoring of the systems and provided monitoring records demonstrating implementation of this program.

Secondary containments for cyanide unloading, storage, mixing and process tanks area interconnected via a system of sumps and gravity-flow drains, which feed into the synthetic-lined three ponds system. These ponds provide adequate supplemental containment during large upset events.

The interconnected secondary containment system begins at its highest point in the mill building, mill pond, draining into the circuit containment, then to the CCD thickener circuit and the refinery pond, finally discharging to the emergency pond. During large upsets, overflow from the mill reports to the mill pond, via a sump and gravity flow drainpipe. The mill pond connects to the concrete containment provided for the agitation leaching tanks via a gravity-flow drainpipe. The containment connects to the containment provided for the thickener circuit, which is linked to the refinery pond via a system of sumps and gravity-flow drains. ultimately, any overflow from the refinery pond reports to the emergency pond via a gravity flow pipe. Thus, secondary containment for the largest process tank in the mill, being the thickener tank, is provided by all interlinked components. The secondary containment for the largest process tank in the circuit is provided by the CIL containment, the thickener circuit containment, the refinery pond, and the emergency pond. Finally, secondary containment for the thickener tanks is provided by the thickener circuit containment, the refinery pond, and the emergency pond.

Tanks at the plant reagent mixing area, filtration plant, clarifying circuit, the pregnant solution and various other process tanks located around the exterior of the filtration plant and refinery buildings, are not included in the interconnected secondary containment system described above, but have secondary containment with concrete floors, stem walls, and internal bund systems. As many of the individual concrete containments are undersized relative to the volumes of the largest tank located within them and, La Coipa performed modifications to these isolated containments to link them together such that they ultimately feed into the synthetic-lined pond system, which provide adequate supplemental containment. The work is documented in a report prepared by the contractor Olazo Hnos., dated May 18, 2011.

The largest process tanks in the interconnected secondary containment at process areas are the leach tanks, each with a capacity of 2,987 m<sup>3</sup>. The emergency pond has a capacity of 55,000 m<sup>3</sup>, enough to provide adequate capacity to contain the volume of this tank. The secondary containment for the cyanide mixing area is adequately sized to contain the volume of the largest tank located within the containment; therefore, this containment is not linked to other supplemental containment areas. The largest tank



situated in the containment is the cyanide dosing tank, which has a volume of 118 m<sup>3</sup>, La Coipa provided calculations in a report by MS Templo Ltda. demonstrating that the available secondary containment capacity is 133 m<sup>3</sup>.

La Coipa has dedicated pumps within secondary containment collection areas that remove solutions and return them into the process circuit. The automatic pumps are part of the defined preventive maintenance program. Water collected in the containment can also gravity drain to the emergency pond. Then water would be pumped back to the process.

Plant operating work procedures, including procedure I-CN-004 Cyanide spill; P-MA-012-V011 Water monitoring and P-MA-028-V0 Ponds monitoring and inspection, describe upset in the operational water balance that could present a risk of exceeding the design containment capacity of the emergency pond, although the mine site area is extremely dry.

All process tanks area have secondary containment. The concrete containments are interlinked and feed to the synthetic-lined pond system, which provides adequate supplemental containment relative to the volume of the largest tank located within the containment system.

All cyanide process solution and pipelines at La Coipa have spill prevention and secondary containment to collect leaks and prevent release to the environment. The operation has installed channel tray containment systems for all the overhead process solution pipelines, within areas of high personnel activity and outside of secondary containment. The channel tray containments are designed to drain to concrete secondary containment areas. All buried process pipelines have pipe-in-pipe containment systems.

La Coipa does not have any perennial or ephemeral surface water bodies that require special protection needs for pipelines over and above the containment measures already taken.

All cyanide process tanks and pipelines at the La Coipa are constructed with materials compatible with high pH cyanide solutions. These include carbon steel ANSI (American National Standards Institute) 150-pound class pipelines, API 650 steel tanks and HDPE pipelines. Material specifications and construction material testing records for all cyanide-containing equipment were found in compliance.





#### Standard of Practice 4.8

*Implement quality control/quality assurance procedures to confirm that cyanide facilities are constructed according to accepted engineering standards and specifications.*

The operation is  in full compliance with  
 in substantial compliance with Standard of Practice 4.8  
 not in compliance with

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

La Coipa implemented quality assurance and quality control programs (QA/QC) for the modifications made in 2008 to the liner systems at the refinery pond and the emergency pond, where the existing liners at the refinery pond and the emergency pond were replaced with double-liner and leak detection systems. This QA/QC documentation prepared is contained in *Cesmec Ltda.* external contractor reports:

- *Inspección Técnica a Geomembrana, Piscina De Lixiviación, SIA-16894, Cesmec Ltda., April 15, 2008 (Technical Inspection of Geomembrane, Refinery Pond); and*
- *Inspección Técnica a Geomembrana, Piscina De Emergencia, SIA-17180, Cesmec Ltda., November 24, 2008 (Technical Inspection of Geomembrane, Emergency Pond)*

Also, a QA/QC program was implemented for the new solid cyanide storage warehouse, as detailed under Standard of Practice 3.1 of this report.

For those facilities where original QA/QC documentation is unavailable (i.e., those other than the refinery pond, the emergency pond, and the solid cyanide storage facility), La Coipa commissioned qualified persons to perform engineering evaluations and to certify the physical integrity of the facilities.

The existing liners at the refinery pond and the emergency pond were replaced with double-liner and leak detection systems. The two construction reports for the pond improvements cover the installation of the synthetic membrane liners and leak detection systems. The QA/QC reports address the suitability of materials and adequacy of soil compaction for earthworks such as tank foundations and earthen liners, the installation of synthetic membrane liners used in ponds.

The operation retains the existing information for the QA/QC programs implemented. Records were available, the auditor verified this documentation is retained in the library adjacent to the Projects area in the mine site offices.

The reports for the refinery pond and the emergency pond are signed by the Cesmec department chief of fabrication and assembly and the Cesmec department chief of



mechanical engineering, respectively, stating that the facility has been built as proposed and approved.

La Coipa commissioned qualified persons to perform engineering evaluations and to certify the physical integrity of the facilities for those facilities where original QA/QC documentation was unavailable (i.e., those other than the refinery pond, the emergency pond, and the solid cyanide storage facility).

Geotechnical evaluations of the TSF were completed in 2004 and 2008, to assess the structural integrity of the facility in relation to the latest facility expansions. The 2004 evaluation, prepared by E.C. Rowe & Asociados, is documented in the report titled, "Tailings Dam Expansion Project – Preliminary Geotechnical Report," dated September 16, 2004. The 2008 assessment, prepared by E.C. Rowe Cusonda Ltda., is documented in the report titled, "MDO La Coipa Tailings Deposit – Capacity Expansion in 50M Ton – Study and Design Report," dated April 2008.

In 2010, La Coipa contracted MS Templo to perform detailed inspections of all cyanide process tanks. The inspections included performing thickness testing on the tanks according to the API 650 standards, and visually inspecting the support structures. A metallurgical engineer and inspection expert - Francisco Vilchez Chacón - conducted the tank inspections and performed all the necessary repairs and/or modifications to address deficiencies identified by the inspections. The certifications are provided in the MS Templo report titled, "Inspection and Certification of the Process, Leach and Thickener Tanks," dated November 26, 2010. The auditor reviewed the MS Templo report during this onsite verification audit and confirmed that all 44 process tanks in contact with cyanide and supporting structures had been inspected and certified. On June 2, 2011, the report titled, "Supportive Structures of Tanks," MS Templo report certified the physical integrity of the pillars, beams and foundations for the 15 process tanks supported by steel structures.

La Coipa also commissioned MS Templo to perform comprehensive inspections to assess the physical integrity of the structural components (i.e., pillars and beams) of the process buildings as well as the cyanide process facilities (i.e., related equipment, piping systems, containments, pumps, filters, etc.) within the various process areas. The building and process areas inspected include the mill, cyanidation plant, CIL plant, filtration plant, CCD plant, refinery and clarification. The inspection results are documented in the April 26, 2011 report titled, "Visual Inspection of the Structural State of Pillars and Beams to a Technical Evaluation from Design Plans and Code AWS D1.1" and the May 4, 2011 report titled, "Description of the Work Performed in the Technical Assessment of the Pipes and/or Tubing in the MDO Plant, International Cyanide Management Code (ICMC) Project Certification."



The engineering inspections performed by qualified persons, support that the facilities could continue to operate from a containment perspective without posing an immediate or substantial risk to health, safety or the environment. Additionally, as discussed above in Standard of Practice 4.5 - Implement measures to protect fish and wildlife from direct and indirect discharges of cyanide process solutions to surface water - and in Standard of Practice 4.6 - Implement measures designed to manage seepage from cyanide facilities to protect the beneficial uses of groundwater-, monitoring data reviewed demonstrate that the facilities, as currently operated, are protective of the environment.

#### Standard of Practice 4.9

*Implement monitoring programs to evaluate the effects of cyanide use on wildlife, and surface and groundwater quality.*

The operation is  in full compliance with  
 in substantial compliance with Standard of Practice 4.9  
 not in compliance with

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

La Coipa has written procedures for the monitoring activities used to evaluate the effects of cyanide use on wildlife, surface water and groundwater quality. The analytical laboratory that conducts the groundwater sampling prepared a sampling plan specifically for La Coipa.. The groundwater-monitoring program includes the process plant, the ponds, the tailings storage facility, and groundwater wells located up and down gradient of the operation. The wildlife monitoring is site wide

The auditor reviewed: La Coipa's Water Monitoring procedure and the Water Quality Monitoring Program which includes all the points for sampling; data records; and the updated sampling procedures for the seepage collection from monitoring wells, finding it to be appropriate. Wildlife, surface water, and ground water are being regularly monitored. La Coipa has not had any recorded cyanide-related wildlife mortalities since restarting operations in 2022.

Qualified La Coipa personnel developed the water and wildlife monitoring procedures using regulatory protocols and input from an outside consulting firm (Water Management Consultants). The names and credentials of the original authors are unknown. La Coipa environmental superintendent is responsible for administering and managing the protocols provided in the procedures.



Cesmec, a company of the Bureau Veritas group, is the contractor in charge of field water monitoring. Samples are analyzed in the ALS laboratory. Both companies are validated by the Chilean authority as Environmental Technical Audit Entity (ETFA). The auditor reviewed the Cesmec protocol for water sampling.

Cesmec protocol for water sampling describe how representative samples should be taken, field parameters to take, sample preservation, sample handling, shipping instructions, chain-of-custody, field monitoring equipment calibration and quality control. Groundwater and surface water samples are shipped to outside laboratories for analyses.

La Coipa's Water Monitoring procedure, in addition to Cesmec sampling protocol, specifies personnel responsibilities; sampling points; preparation of materials for sampling; sample bottles; collection of double, triple and blank samples; analysis of the samples; and reporting and analysis of results. Map showing the monitoring locations with respect to the cyanide facilities were reviewed.

Water sampling procedures and wildlife monitoring procedures are documented in writing. Field log sheets were reviewed during this onsite verification audit. These records document sample locations and time, environmental conditions as dust and wildlife presence, purge volume/time and levels (for groundwater samples), pH, conductivity, temperature, analyses to be performed, container type/size, general observations, and laboratory to which samples are sent. The auditor reviewed completed field forms and verified that these conditions are being registered.

La Coipa conducts groundwater monitoring at 60 wells. All 60 wells are sampled quarterly and 10 of the 60 wells are sampled monthly. The operation conducts surface water monitoring at three locations monthly. Additionally, surface water at the infiltration area, downgradient of the remediation area, is sampled every two weeks. The current monitoring and inspection of wildlife is conducted weekly. In opinion of the auditor, La Coipa performs monitoring with adequate frequency to characterize the medium that is being monitored and to identify any changes on time.



## Principle 5 | DECOMMISSIONING

Protect communities and the environment from cyanide through development and implementation of decommissioning plans for cyanide facilities.

### Standard of Practice 5.1

*Plan and implement procedures for effective decommissioning of cyanide facilities to protect human health, wildlife, livestock, and the environment.*

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

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

La Coipa has the written mine closure plan “Technical Report: Closure Plan and Abandonment Tasks” developed by Arcadis external contractor which includes procedures for closing all the cyanide facility.

The plan considers those aspects of closure that address the cyanide remaining on site upon cessation of production activities and prepares the site for its closure, describing the necessary activities for treating, neutralizing, managing cyanide and cyanide containing process solutions remaining in storage and production facilities in preparation for closure so that they do not present a risk to people, wildlife or the environment due to their cyanide content.

Decommissioning activities described in the plan includes activities such as decontamination of equipment, removal of residual cyanide reagents, neutralization of process solutions and installation, the necessary measures for surface and groundwater management such as pumping systems that would operate during the facility’s closure period.

The auditor reviewed the closure plan confirming has written plans to conduct the mine closure necessary activities, as applicable to its cyanide facilities.

The closure plan includes a schedule for carrying out its proposed activities. The schedule is years after closure and shows the order in which the planned activities will be conducted and the duration of each activity starting from the point in time the operation ceases production. It shows years and semesters starting in 2032. It starts with the decommissioning of the plant in 2032 and 2033. Then follows a post closure focused on water monitoring. This schedule will be refined as La Coipa approaches the closure period.



The mine reviews its decommissioning plan during the active life of the operation to keep them current and applicable to the actual ongoing operation as it changes over time, to reflect changes in the operation as they affect decommissioning, as well as changes in planned decommissioning techniques and measures. Every 5 years reviews plan closure procedures; closing costs are reviewed annually taking into account new facilities, changes in regulations and inflation.

The mine's decommissioning plan includes a provision requiring its periodic review and provides the date of the most recent plan revision addressing all expansions and modifications to the operation that materially affect the plan and its estimated cost.

### Standard of Practice 5.2

*Establish a financial assurance mechanism capable of fully funding cyanide-related decommissioning activities.*

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

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

The operation has a cost estimate based on rates applicable to labor and equipment quotes from external contractors. The cost estimate includes line items for site cyanide-related decommissioning activities and corresponding costs. The auditor reviewed the last version of the cost estimate elaborated by Arcadis, based on contractor's prices.

La Coipa is required by Kinross's corporate policy to update the estimated closure plan cost on at least an annual basis which addresses decommissioning and closure cost for the entire mine, including all cyanide infrastructure.

The operation has established a financial guarantee as requested by the Sernageomin (National Service of Geology and Mining), in accordance with Chilean regulation 20551 for mining operations closure. The financial guarantee is for the amount of 103.7 million dollars, dated from 5-20-2022 and valid until 5-20-2023.

La Coipa has established a financial guarantee as requested by local regulations for mining operations closure.



## Principle 6 | WORKER SAFETY

Protect workers' health and safety from exposure to cyanide.

### Standard of Practice 6.1

*Identify potential cyanide exposure scenarios and take measures as necessary to eliminate, reduce and control them.*

The operation is  in full compliance with  
 in substantial compliance with Standard of Practice 6.1  
 not in compliance with

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

La Coipa has developed and implemented written procedures for the tasks that require management of cyanide including procedures for unloading, mixing, plant operations, entry into confined spaces, and equipment decontamination prior to maintenance. The operational procedures focused on the mine operations include those reviewed under Standard of Practice 4.1, which the auditor determined they describe cyanide-related safe work practices.

The procedures are available through the intranet with the original approved and signed documents maintained by the Health and Safety (H&S) Department. Operating procedures are available that address cyanide delivery and unloading, cyanide mixing, equipment decontamination prior to maintenance, plant operations, and confined space entry, i.e.:

- I-CN-003: HCN emissions control
- I-CN-010: Cyanide Preparation
- I-CN-087: Leaching tanks cleaning
- I-CCD-088: CDD start-up - stop

There are several safety procedures that are been referenced directly from the corporative book "Pautas de Salud y Seguridad Kinross Las Américas" (Health and Safety Guidelines Kinross Las Americas), i.e.:

- HS-C9: Work at Heights
- HS-C10: Moving Machinery Protection
- HS-C11: Host rail crane used on sodium cyanide solution preparation plant
- HS-C14: Confined Space
- HS-C15: Hazard Communication
- HS-C31: Safe work analysis
- HS-C37: Monitoring and Medical Surveillance
- HS-C39: Occupational Health Program



These procedures describe risks associated with specific work tasks and the precautions and safety equipment required to safely complete the tasks.

This requirement was verified through review of documented procedures and discussion with personnel from H&S and Plant Operations areas.

Both Kinross safety management guidelines and Chilean H&S and mining safety regulations, require La Coipa that a risk analysis be conducted for all operations, especially those that have elements of high risk to workers. In compliance with these requirements, La Coipa proceeded with the elaboration of a Miperc – Matriz de Identificación de Peligros, Evaluación de Riesgo y Aplicación de Controles (Hazard Identification Risk Assessment and Controls Matrix) – as the basis of analysis for each regular operations procedure: discharge and storage of sodium cyanide, preparation of cyanide solution, leaching and hydrometallurgical processes, tailings and water management, mechanical maintenance, waste management, and emergency response. As part of this analysis, there have been considered controls that consider the use of physical protection PPE for solid or solution sodium cyanide (body, hands, eyes, feet), respiratory protection PPE for particulate sodium cyanide or HCN, as well as environmental monitoring elements for HCN (fixed or portable).

Likewise, there are procedures for evaluating risk and apply additional H&S controls for critical and/or non-regular operations at La Coipa. For them, it is required that at the beginning of any non-regular operation in the field or in the plant, an Análisis de Trabajo Seguro – JHA (job hazard analysis) must be carried out, in order to obtain Permiso de Trabajo de Alto Riesgo – Petar (equivalent to a Work Permit). In it, additional security measures are considered according to the work to be carried out. In particular, PPE with a higher level of respiratory protection is considered according to the potential level of exposure to sodium cyanide and HCN in the workplace or in the operation to be carried out, PPE with a higher level of physical protection for potential or direct solid or solution sodium cyanide exposure (body, hands, eyes, feet), as well as the need for atmospheric monitoring in addition to HCN [as lower explosive limit (LEL) and percentage of oxygen (O<sub>2</sub>)] in the working atmosphere. In some cases, it will be considered additional safety measurement for specific risks, i.e.: lifelines, body harnesses, means of entrance and exit, positive-pressure respiratory filtration protection, air-line supplied air respiratory protection, self-contained breathing apparatus (SCBA) respiratory protection, atmosphere ventilation, and others.

The H&S area has developed a matrix of PPE required for the whole mine, including cyanide facilities. Observations during the audit confirmed that hard-hat, hearing protection, rubber boots, rubber gloves, and chemical suits were in use for tasks that were performed involving direct or potential presence of sodium cyanide or HCN: sodium cyanide discharge, sodium cyanide warehouse, sodium cyanide solution preparation area, lixiviation and hydrometallurgical processes areas, water and tailing





management area, maintenance area, and emergency response. Face and respiratory protection depend on the regular task to be performed, considering one of three options:

- Half-face mask respirator with gas and particulates filters, and safety glasses;
- Full-face mask respirator with gas and particulates canister; or
- Full-face mask with APR (Air Purifying Respirator) system (positive pressure), with gas and particulates filtration system.

This requirement was verified through review of documented procedures, review of PPE delivery files to workers, pre-work check lists, work inspections, work safety analysis and work inspections, work permits, historical record of calibration of gas monitors, and discussion with personnel from H&S and Plant Operations areas. Operators and maintenance personnel in the different process areas were interviewed and demonstrated knowledge and good awareness of what PPE has to be used in work areas with cyanide presence, as well as issuing pre-work checklists, work safety analysis and inspections, and soliciting work permits to the appropriate supervision or management levels on each work area when required.

La Coipa obtains employee input regarding its health and safety procedures and considers this input in developing and evaluating its procedures. Methods include the daily safety meetings (5-minute talks), training sessions, investigation of incidents, Miperc and JHA protocols.

During the daily safety meetings there is direct communication between supervisors and operators where worker input is considered to improve existing procedures. Records of daily safety meetings conducted in the last years, including discussion of safety issues related to cyanide, were reviewed by the auditors.

Procedures related to cyanide management are reviewed and/or updated periodically with the participation of process operators. In the case of incidents investigation, workers also have the opportunity to provide input on how to improve safety procedures. The auditors reviewed examples of incidents investigation reports. Although these incidents were not related to cyanide, it was evidenced that the system and mechanism to provide feedback in safety procedures are in place.

Operators and maintenance personnel interviewed demonstrated knowledge and understanding of the company's pre-work risk assessment where workers identify potential risks associated with the work and communicate any potential procedural or other problems to a supervisor. Interviews with medical staff also demonstrated that they had been instrumental in the development of the procedures.

During general cyanide safety training, as well as in specific cyanide safety trainings for operational working areas, are conducted to disseminate the updated procedures, and



feedback is provided by the workforce during those sessions. Records of input from workers and records of training sessions were reviewed by the auditor and were found to be complete.

This requirement was verified through review of documented procedures, work inspections, work safety analysis and work inspections, and discussion with personnel from H&S and Plant Operations areas. Operators and maintenance personnel from the different process areas with sodium cyanide or HCN direct or potential presence were interviewed, and they stated that they maintain a constant dialogue with their supervisors and managers regarding health and safety at work, and consider that their opinions are listened to, valued, and used. in the process of continuous improvement of procedures and operations.

#### Standard of Practice 6.2

*Operate and monitor cyanide facilities to protect worker health and safety and periodically evaluate the effectiveness of health and safety measures.*

The operation is  in full compliance with  
 in substantial compliance with Standard of Practice 6.2  
 not in compliance with

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

La Coipa has established an operational standard for pH of 11.5. Procedure I-CN-003 Cyanide Solution Preparation specifies the preparation of a pH 11.5 solution in the mix tank prior to adding solid cyanide briquettes during the cyanide preparation process and keep during all the process a pH no lower than 11.5 in solutions with sodium cyanide content. Also, they must be considered the content of the procedures indicated in section 4.1., for either the appropriate pH for limiting the evolution of HCN, or the maximum expected sodium cyanide and HCN for each specific process and operational area.

This requirement was verified through review of procedures, plant daily operating logs, control room operating logs, and discussion with personnel from H&S and Plant Operations areas, together with the revision of principle 4.1. Observation of a cyanide mixing event confirmed that the mix tank pH was checked and recorded in the checklist prior to initiating the mixing process

La Coipa has identified the areas and activities where workers may be exposed to cyanide, either as sodium cyanide (dust of solids or cyanide solution splash, droplets, mist or vapors), or as HCN gas. This identification has been made in the general operation Miperc, as well in the specific Miperc for each operational area. This identification has been made considering the employer's obligations detailed in Chilean



government D.S. 594 “Reglamento sobre Condiciones Sanitarias y Ambientales Básicas en los Lugares de Trabajo” (Supreme Decree 594 Regulation on Basic Sanitary and Environmental Conditions in Workplaces). This regulation states as Límite Permissible Absoluto (equivalent to Permitted Exposure Limit – PEL) of chemicals in the working atmosphere, 5 mg/m<sup>3</sup> of sodium cyanide, and 4.7 ppm of HCN.

The controls determined in each Miperc indicate the level of protection for the workers (respiratory protection and physical barrier protection), and the need of working atmosphere monitoring (as portable monitoring devices or as fixed area monitoring stations).

In the case of respiratory protection, the highest potential exposure working positions are in the cyanide mixing area (preparation of cyanide solution), followed by the cyanide unloading and warehousing. In both cases, workers are requested to use negative-pressure full face protection with canisters, with the exception of the operator near the cyanide mixing tank, which is required to use a positive-pressure full face protection mask and motorized filtering device (Air Purifying Respirator or APR). In all the other areas of the hydrometallurgical operation with cyanide direct or potential presence, it is mandatory to all workers to use all time a half-face mask respirator with gas and particulates filters, and safety glasses. The only exception is the operator of the control room, which is only required to use this PPE only on the transit outside the control room, since this area has its own filtered and control cyanide-free atmosphere. All the filtering respiratory protection PPE fulfill the European Standard EN 14387:2022 (Respiratory Protection Devices), and are either of the brands Dräger ([www.draeger.com](http://www.draeger.com)) or MSA ([www.msasafety.com](http://www.msasafety.com)). All the filtration respiratory protection PPEs are authorized for use up to 50 ppm of HCN, or 50 mg/m<sup>3</sup> of sodium cyanide. On atmospheres with direct or potential cyanide presence higher than these values (usually on emergency response cases), it will be required the use of a SCBA equipment. Risk analysis may also require a higher level of physical protection, either encapsulated or semi-encapsulated, with high chemical resistance suits.

The provider for respiratory protection PPE, as well as physical protection PPE (i.e., chemical protection suits, chemical-resistant gloves, chemical-resistant boots, and safety glasses/googles), is Segurycel ([www.segurycel.cl](http://www.segurycel.cl)).

This requirement was verified through a review of procedures, review of the record of delivery and replacement of PPE to workers, observation of tasks during inspections at the plant (discharge of sodium cyanide, preparation of cyanide solution, operations at the hydrometallurgical plant), and discussion with workers, as well as with personnel from H&S and Plant Operations areas.

La Coipa uses continuous atmospheric monitoring for HCN in all the hydrometallurgical operations area on which cyanide is involved (as main chemical reactive, or as waste recovered from the process in the form of barren solution or tailings). All its



atmospheric monitoring devices and fixed equipment are from the DRÄGER ([www.draeger.com](http://www.draeger.com)) brand, on the following models and uses:

- Dräger Pac 8000 (for HCN): assigned to each and every individual worker;
- Dräger X-am 5600 (for explosivity lower explosive limit [LEL], oxygen, HCN, CO and H2S): assigned to each area shift supervisor or H&S supervisor, and
- Dräger Polytron 7000 (for HCN): installed on fixed positions at the top of the leaching, thickening and clarifying tanks, tanks (in the area of work ramps), and in the tailings filter area and barren solution recovery.

In all three cases, each equipment is configured with three alarm levels:

- 3.5 ppm (warning level)
- 4.7 ppm (occupational limit, plant evacuation level), and
- 10 ppm (NIOSH [National Institute for Occupational Safety & Health] | PEL [permissible exposure limits])

The technical measuring limit on each case, is up to 50 ppm (NIOSH IDLH [Immediately Dangerous to Life or Health]). Chilean regulation D.S. 594, art. 6.1 (Supreme Decree N° 594, Art. 6.1) does not permit workers to remain in a work area if HCN levels are 4.7 ppm or more.

This requirement was verified through a review of procedures, review of the record of equipment's inventory, record of equipment's calibration log, observation of tasks during inspections at the plant (discharge of sodium cyanide, preparation of cyanide solution, operations at the hydrometallurgical plant), plant and warehouse inspection, and discussion with workers, as well as with personnel from H&S and Plant Operations areas.

La Coipa maintains, test and calibrate its fixed and personal (portable) HCN monitoring equipment as recommended by the manufacturer and beyond. All the fixed and portable HCN monitors are calibrated by Segurycel ([www.segurycel.cl](http://www.segurycel.cl)), the supplier of the units and maintenance contractor, and local representative of the brand Dräger.

Portable detectors have a technical specification to be calibrated every six months on this specific brand. Each equipment is marked with a physical adhesive label indicating the next calibration date required. However, La Coipa considers a shorter period of review and calibration, considering the harsh conditions (altitude and climate) of the operation, and the importance given to preventive health and safety controls. Under these considerations, all the HCN monitors (fixed and portable) are calibrated on a weekly basis. Also, it has been considered that the sensors would be replaced more frequently than the manufacturer's life expectancy of 2 years for these sensors, under the consideration of the equipment technical supplier based on each individual equipment performance tracking.



The H&S area retains a digital and a hard copy of the calibration records for the HCN monitors (fixed and portable). These records will be retained for at least 05 (five) years as hard copies, and a permanent record as digital copies. This requirement was verified through a review of procedures, review of the record of gas monitor detectors inventory, record of equipment's calibrations (since the reopening of the operations in La Coipa in 2022), work tasks observation during weekly calibration process, and discussion with the equipment technical provider, as well as with personnel from H&S and Plant Operations areas.

La Coipa alerts its workers as well as any external third-party operator and visitor about the presence of cyanide and reminds of the various prohibitions regarding its use. Warning signs are installed on gates entering the cyanide unloading area and warehouse, on the process plant area building entrances, process tank installations, and at the tailings filtering plant. Warning signs are posted in all areas where cyanide is present advising workers that cyanide is in use, indicating that smoking, open flames and eating and drinking are not allowed, and that, if required, suitable personal protective equipment must be worn. Separate signage was also posted that prohibited eating, smoking and drinking inside these buildings and operational areas, as well as the ones indicating emergency response equipment (i.e., fire extinguishers, emergency showers, spill kits), and exit routes. The PPE requirements are also posted in each area, indicating the need of physical barrier protection and respiratory protection.

All the signs are in Spanish, which is the national language in Chile, and of most of the workforce in La Coipa. Verification was performed through visual inspection of the signs located in all the areas from the hydrometallurgical process plant on which has been determined the actual or potential presence of cyanide, either as sodium cyanide or as HCN.

All the warning signs have been placed considering Kinross safety management guidelines and Chilean H&S and mining safety regulations. The regulations considered are the D.S. N°40 "Reglamento sobre Prevencion de Riesgos Profesionales" Art. 21 "De la obligacion de informar de los riesgos laborales" (Supreme Decree N°40 "Regulation on Occupational Risk Prevention" Art. 21 "Obligation to inform occupational hazards"), which requires employers to inform workers of all hazards in the workplace. All the signs have been prepared considering the NCh3690 "Señales y Colores de Seguridad" (Chilean Technical Standard 3690 "Safety Signs and Colors") and NCh1410 "Símbolos Gráficos – Coores de seguridad y señales de seguridad" (Chilean Technical Standard 1410 "Graphic Symbols – Safety Colors and Safety Signs").

This requirement was verified through site inspection and review of physical positioning of information, awareness and alert sings. Also, it was reviewed the plant risk map, and the checklist of signs deployed by operational area, and complemented through discussion with personnel from H&S and Plant Operations areas.



High-strength cyanide solutions at La Coipa contain red colorant dye for clear identification when observed out of proper containment and for clear differentiation with other solutions or rainwater that may be present. Draslovka, the cyanide producer, includes carmoisine dye on each Ecopak® of sodium cyanide, in a concentration that provides a clear visual indicator of the presence of high-strength cyanide solution.

This requirement was verified through work task observation during cyanide solution preparation, review of technical documentation related to sodium cyanide characteristics provided by Draslovka and complemented through discussion with personnel from H&S and Plant Operations areas.

La Coipa has emergency showers, eyewash stations and fire extinguishers available all around the unloading area and cyanide warehouse, as well as in the cyanide mixing area, all the hydrometallurgical plant circuit, and the tailings filtering area, as well as in all areas on which personnel may be exposed to cyanide in the normal course of their work (for emergency showers and eyewash stations), or there is a identified potential source of fire (for fire extinguishers).

The emergency shower and eyewash station at the unloading area and cyanide warehouse is a portable equipment, located out of the storage area to minimize the potential for water leaks to come into contact with cyanide and expose workers to HCN. There were observed emergency showers with built-in eyewash stations in the cyanide mixing area, on ground level and in the platforms area on top of lixiviation, thickening and clarification tanks, and in the tailings filtering area. There were also found stand-alone portable eyewash stations installed in indoor areas on the mixing area, hydrometallurgical circuit and tailings filtering area. These additional eyewash stations were located on spaces or corridors where there are no water pipes, spaces and corridors that are difficult to access, isolated or far from other security installations, and in the areas where workers change their PPE.

Emergency showers and eyewash stations are built and operated under the ANSI/ISEA Z358.1 Standard (American National Standard for Emergency Eyewash and Shower Equipment). Dry-chemical portable extinguishers comply with NCh series related to "Extintores Portátiles" (NCh Standard Series: "Portable Fire Extinguishers") on terms of construction and components, dry agent characteristics, fire extinction rating, conductivity, inspections, and labelling. The distribution, installation and signposting is fulfilled in compliance with NCh1433 "Ubicación y señalización de los extintores portátiles" (NCh1433 standard: "Location and signaling of portable fire extinguishers"). All the NCh standard series related to fire extinguishers are based on NFPA 10: Standard for Portable Fire Extinguishers.

Showers and eye wash stations are inspected and tested on a weekly basis, except when it is going to be executed a task that has the potential for cyanide exposure (i.e., cyanide mixing, opening a pipeline for maintenance), on which the inspection and test will be



conducted previous to the task execution. Fire extinguishers are inspected monthly, and their maintenance and recharge is conducted annually or as needed. The fire extinguishers' monthly inspection is conducted by each operational area, and the maintenance and recharge is conducted by WILUG ([www.wilug.cl](http://www.wilug.cl)), an outside contractor.

This requirement was verified through physical inspection during the plant visit, checking the proper operation of the emergency showers and eyewash stations, as well as the location, availability of access and validity of use of the dry chemical powder extinguishers distributed within the plant. Also, it was reviewed the plant risk map, the checklist of emergency showers, eyewash stations, and fire extinguishers, and complemented through discussion with personnel from H&S and Plant Operations areas.

As indicated in Standard of Practice 6.2 and in order to ensure that individuals that may come into contact with cyanide or cyanide solutions (including employees involved in maintenance, and any other individual that may be exposed to released solution) be alerted to its presence, La Coipa identifies with appropriate signs and labels all the areas with actual content or presence of sodium cyanide, as solid or as liquid. This includes:

- Sodium cyanide unloading area
- Sodium cyanide storage warehouse
- Sodium cyanide solution mixing area
- Lixiviation tanks and all hydrometallurgical circuit tanks and piping

Labeling provide workers and others with notice that a dangerous material is present as necessary to protect their health and safety. Pipes containing cyanide (high or low concentration) are marked as containing cyanide solution or barren solution, and flow direction is indicated. Cyanide storage and process tanks are marked as containing cyanide. Signage of confined spaces are also placed on cyanide tanks. The auditor followed the cyanide solution circuit from the cyanide mixing area, the process plant area and pipelines transporting tailings to the filtering area

All the warning signs have been placed considering Kinross safety management guidelines and Chilean H&S and mining safety regulations. The regulations considered are the Supreme Decree N°40 "Regulation on Occupational Risk Prevention" Art. 21 Obligation to inform occupational hazards, which requires employers to inform workers of all hazards in the workplace. All the signs have been prepared considering the NCh3690 Technical Standard 3690 Safety Signs and Colors and NCh1410 Technical Standard 1410 Graphic Symbols – Safety Colors and Safety Signs.

This requirement was verified through site inspection and review of physical positioning of information, awareness and alert signage. Also, it was reviewed the plant risk map, and the checklist of signs deployed by operational area, and complemented through discussion with personnel from H&S and Plant Operations areas.



Employees at La Coipa have access to Safety Data Sheets and information on cyanide intoxication first aid in areas where cyanide is used and particularly where reagent-strength cyanide is managed, including cyanide storage area, mixing areas, the control room, as well as in areas at the hydrometallurgical process plant where cyanide presence (as sodium cyanide or HCN) is possible. Sodium Cyanide Safety Data Sheet are also available in medical first aid kits and at the medical clinic; and is referenced in the operational procedure for Cyanide Emergencies, which is part of the Emergency Response Plan (ERP).

Safety Data Sheets information is provided by Draslovka. La Coipa is responsible for the information validation, technical translation to Spanish, and adaptation to the Kinross format. Safety Data Sheets comply with ANSI Z400.1/Z129.1-2010 standard "Hazardous Workplace Chemicals - Hazard Evaluation and Safety Data Sheet and Precautionary Labeling Preparation", as well as with the Globally Harmonized System of Classification and Labelling of Chemicals (GHS Rev. 9, 2021, United Nations Economic Commission for Europe).

Safety Data Sheet (SDS) is part of the hazardous materials information system used to inform workers at the mine. As part of the "Right to Know" program (D.S. N°40, Art No. 21), workers are trained in cyanide hazard recognition during induction training and annual cyanide hazard training and provided with a quick-reference manual on cyanide safety and emergency response. Also, as noted in Section 6.2(5), cyanide warning signage has been placed all around the hydrometallurgical plant. This signage provides information on the characteristics and hazards of cyanide; effects of exposure to various levels of cyanide, the symptoms of cyanide exposure; and the precautions, protective personal equipment, and safe practices required to be followed. All these information is in Spanish.

This requirement was verified through site inspection and physical review of information available for the workers along the cyanide warehouse and hydrometallurgical plant and complemented through discussion with personnel from H&S and Plant Operations areas.

La Coipa has the written procedure PINV-SS-01-22 for investigating and evaluating incidents, including cyanide exposure incidents, to determine if the operation's policies and programs to prevent such incidents are adequate or whether they need to be revised. This procedure all incidents, including cyanide related incidents. This procedure fulfills the legal requirement for incident investigation on mining operations indicated on Decreto N°132 "Reglamento de Seguridad Minera" (Decree N°132 "Mining Safety Regulations").

The procedure includes two report templates to be used for incident reporting and investigation. One is the Flash Report to be completed within 24 hours of the incident.





This report includes incident location, incident description, incident nature, and immediate measures taken. The other report is the Incident Investigation Report, to be used to conduct a detailed investigation of the incident. This report includes an incident description, personnel involved and injured, physical damages, incident causes, and preventive and corrective actions. Once the investigation is finished, the complete incident report is uploaded in Intalex software, which corresponds to an internal platform of La Coipa as control and follow-up of reports of significant incidents, which allows them to track compliance to the corrective actions and to share incidents in Kinross Chile and worldwide in Kinross operations.

The auditor reviewed this procedure as well as records of past investigations. Since the reopening of La Coipa in February 2022, the operation has reported no incident related to sodium cyanide or HCN in the operation. The auditor reviewed the incident report records, including incidents not related to cyanide, confirming that the operation is implementing the general program for incident investigation.

This requirement was verified through revision of documented procedures and incident investigation records and registries, as well as with interviews with the workers and discussion with personnel from H&S and Plant Operations areas.

#### Standard of Practice 6.3

*Develop and implement emergency response plans and procedures to respond to worker exposure to cyanide.*

The operation is  in full compliance with  
 in substantial compliance with Standard of Practice 6.3  
 not in compliance with

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

La Coipa is prepared to respond to cyanide exposure emergencies with effective response procedures and trained personnel. The operation has the necessary equipment for emergency response to a worker exposure to cyanide, initiation with first response on field, and then receiving a second response based on the technological and professional resources available in the medical center inside the operation.

Alongside the operation, next to the emergency showers, there are implemented emergency stations with trauma kits, including first aid kit, stretchers, cervical collars, oxygen and burn kit. The portable oxygen tanks are of 0.5m<sup>3</sup> of capacity and are provided with sterile masks and a jockey valve regulator that allows up to 15 liter per minute oxygen dosage. There is an emergency station with this equipment next to the unloading area, outside the cyanide warehouse. No antidote is deployed outside the medical center.



In the medical center, the operation has available Automated External Defibrillators (AED) resuscitators available and cardiopulmonary resuscitation (CPR) life face masks (resuscitation bags) that can be used with medical oxygen to resuscitate patients that are not breathing. Safety equipment includes cyanide antidote kits, fresh water, oxygen, resuscitators, blood pressure and oxygen saturation meters, stretchers, ambulances, radios and telephones. All operators in the process area have radios during their daily activities, which can get rapidly online through radio communication with the medical center 24/7, using channel 2.

Amyl nitrite, sodium nitrite and sodium thiosulfate, are available at the clinic, and stored in controlled temperature refrigerators (depending on the recommended temperature for each component, according to the manufacturer's instructions). Two full-equipped ambulances are located at the medical center on mine site, which can be used for intoxicated evacuation and life support if needed.

It is important to consider that the medical center in La Coipa, is managed by a third party, Mutual de Seguridad CChC ([www.mutual.cl](http://www.mutual.cl) – “Mutual”). They have developed written procedures for managing the medical center (GCNFM-752-Policlínico) and the ambulances (GCNFM-752-Ambulancia).

This requirement was verified through site inspection, considering review of the medical center equipment checklists and physical review of equipment and infrastructure, review of the plant risk map and checklists of emergency response equipment deployed in the plant, review of procedures from Mutual for medical center and ambulances, interview with onsite doctor and nurses, interview with plant workers, and complemented through discussion with personnel from H&S and Plant Operations areas.

La Coipa regularly checks the cyanide emergency response equipment to ensure it will be available when required. This includes inspections of cyanide antidote kits, blood pressure meter, blood oxygen saturation meter, AEDs, first aid stations, eye wash stations and emergency showers, portable oxygen tanks, and other medical equipment.

The personnel in the medical center are directly in charge of safekeeping and regular inspection of antidotes, as well as all the equipment regularly used in the medical center: oxygen tanks with humidifiers, blood pressure meters, blood oxygen saturation meters, heart rate meters, AEDs, digital thermometers, secretion aspirators, and other specialized equipment used regularly in a medical center and that may be required for use in emergency case of poisoning with sodium cyanide or HCN. These reviews are carried out on a daily basis, being that there is equipment that is used on a regular basis for medical control of visitors and personnel with medical conditions (typical of the altitude above sea level of La Coipa, accidents or medical incidents in operations, and medical symptoms typical of the volume of working population in the operation)



The personnel in charge of the ambulances carry out a daily inspection of the operability of their vehicles. Likewise, it conducts a weekly review of the inventory of medical equipment in its vehicles, as well as the operation of energized or pressurized equipment: medical oxygen, AED, heart rate monitor, secretion vacuum cleaner, stretchers, immobilization elements, and transfer of the injured, and stock of consumables (cotton swabs, gauze, bandages, and others).

Plant operations personnel who regularly inspect safety showers and eyewash stations also inspect the charging and pressurization of portable oxygen cylinders found in emergency response kits distributed throughout the plant. These inspections are carried out on a weekly basis. In the event of requiring refilling of medical oxygen, replacement of masks or replacement of any other first aid material, the items that require recharging or replacement are sent to the medical center.

Medical personnel periodically inspect the cyanide antidotes. Amyl nitrite, sodium nitrite and sodium thiosulfate, are available at the clinic, and stored in controlled temperature refrigerators (depending on the recommended temperature for each component, according to the manufacturer's instructions). No antidote or injectable medical element, as well as medicines or pills, is found outside the medical center, and only the doctor or nurse on duty is the only technically and legally authorized personnel to apply these elements.

Inspection records were available for review during the audit and were found to be complete. This requirement was verified through visual examination of the antidote expiration dates, interviews with onsite doctor, nurses and ambulance driver, and review of inspection records. The auditor confirmed that all antidotes are stored at the correct temperature and that they have not expired. This verification was complemented through discussion with personnel from H&S and Plant Operations areas.

La Coipa has developed a specific written contingency plan, documented as PGRECIAN-SS-01-22. In it, there is a detailed description of the routes of exposure to cyanide (sodium cyanide and HCN), symptoms of mild and acute poisoning, intoxication levels, intoxication routes, steps to be followed in the event of a cyanide exposure, including personnel responsibilities, on-site decontamination, first aid procedure (for conscious and unconscious patient), medical attention, derivation to the clinic and treatment.

Also, Mutual has a medical emergency response procedure, documented as procedure EF-03/25/14. In it, they are also detailed the symptoms of mild and acute poisoning, intoxication levels, intoxication routes, differential diagnosis to distinguish acute cyanide poisoning from other medical conditions, advanced treatment to conscious and unconscious patient, advanced decontamination process, advanced use of oxygen therapy, use of injectable antidotes, patient stabilization and transfer to medical centers outside the mining operation by ambulance.



These procedures fulfill the legal requirement for medical emergency response preparation on mine site, indicated on Decreto N°132 “Reglamento de Seguridad Minera” (Decree N°132 "Mining Safety Regulations").

The first steps of action in case of contact or intoxication, including the use of emergency showers and basic first aid, are detailed both on posters distributed within the operation, as well as on the quick-aid cards delivered to all workers and visitors to La Coipa. Workers are not expected to provide medical first aid during an emergency that involves cyanide exposure. Workers are trained to initiate emergency response procedures by contacting any emergency number on the operation: dialing numbers (+56) 52 2523104 (gatehouse), (+56) 52 2523200 (control room), or (+56) 52 2253249 (on site medical center), dialing extension 3200 (control room), or using radio channel 2. Emergency shower and eyewash can be used directly by the contaminated person, or with the help of any member of the emergency response team. Also, the contaminated person can use oxygen by himself, or with the help of the emergency response team. If the person cannot evacuate the location of the incident by his own means, it will be helped by the emergency response team in order to reach the medical center.

Workers and visitors have also been provided with a pocket booklet guide “Informativo sobre sustancias químicas – Cianuro de Sodio” (“Information about chemical substances – Sodium Cyanide”), which provides information on cyanide hazard, toxicity, exposure symptoms, required PPE and emergency response, and first aid in the event of a cyanide release or exposure. The provision of this booklet to all workers and visitors, alongside with general and specific training, fulfills Supreme Decree N°40 Regulation on Occupational Risk Prevention Art. 21 Obligation to inform occupational hazards, which requires employers to inform workers of all hazards in the workplace.

This requirement was verified through site inspection and physical review of information available for the workers along the cyanide warehouse and hydrometallurgical plant, document revisions, interview to workers on process plant, and complemented through discussion with personnel from H&S and Plant Operations areas.

La Coipa has a complete medical center installed and operating on the site. These includes medical offices, a triage room, an advanced medical care room, and a quarantine area. Also, it has two fully equipped ambulances, in case it is necessary to urgently evacuate the injured or intoxicated.

La Coipa contracts Mutual de Seguridad CChC ([www.mutual.cl](http://www.mutual.cl) - “Mutual”) to provide clinical and emergency response medical services at the site. This is a Chilean regulatory requirement. Mutual provides medical and service personnel for the operation of the medical center and ambulances. For this, there is a doctor, two nurses, three paramedics, and an ambulance driver on each shift (by rotation). The staff on duty



spend the night in the operation, in order to be available 24 hours in case of emergency. The night watch is always covered by a paramedic, who can summon the rest of the medical team if necessary.

All the medical and paramedical personnel assigned to the operation not only have their professional certification to perform medical or paramedical services but have also received advanced training in risks and emergency care with sodium cyanide, as well as risks and emergency care in mining. In particular, doctors and nurses have received advanced training in the use of antidotes against cyanide poisoning, as well as in measures for storage and inventory control of antidotes.

This requirement was verified through site inspection, review of written procedures and training records, interview with medical center staff, and complemented through discussion with personnel from H&S and Plant Operations areas.

As indicated in Standard of Practice 6.3, Mutual has a medical emergency response procedure, documented as procedure EF-03/25/14, on which details patient stabilization and transfer to medical centers outside the mining operation by ambulance.

In the event that a patient needs to be evacuated to a hospital, there are two ambulances on site; one owned by Mutual and the other by La Coipa, both operated by Mutual. The site is about 2 hours' drive to Copiapó. La Coipa also the ability to arrange emergency air evacuation. This is coordinated through La Coipa's Copiapó's office crisis management process.

It is important to indicate that Mutual, being a provider of occupational medical services at the national level in Chile, assumes within its contractual functions with La Coipa, maintaining constant coordination with medical centers at the national level in case it is necessary to evacuate any person of mine operations to provide advanced medical treatment. Likewise, it is important to mention that the medical center in the mine has equipment and personnel to provide initial and advanced treatment to people intoxicated with cyanide, for which reason an external transfer of the patient would be considered if follow-up treatment is required rather than first. answer.

This requirement was verified through review of written procedures, interview with medical center staff, and complemented through discussion with personnel from H&S and Plant Operations areas.

As indicated in Principle 6.3, La Coipa contracts Mutual de Seguridad CChC ([www.mutual.cl](http://www.mutual.cl) - "Mutual") to provide clinical and emergency response medical services at the site. Mutual is a provider of occupational medical control services nationwide throughout Chile. Part of its contractual responsibilities towards La Coipa, in addition to maintaining and operating the medical center within the mining



operation, is to provide support for its entire medical care network nationwide. Mutual maintain direct contact with hospitals, clinics and specialized medical centers in Copiapó (the nearest city to the mine site), as well as in Iquique, Antofagasta, Calama, (main cities in the northern mining region of Chile), La Serena, Valparaíso (main cities to the south of Copiapó) and Santiago (capital city of Chile), and in all the Chilean territory. It is important to mention that the main hospitals in Chile have specialized staff and equipment to treat chemical intoxications and other emergencies derived from mining and hydrometallurgical activities, since mining is the main economic activity in Chile.

This requirement was verified through review of written procedures, review of written contact between La Coipa and Mutual, interview with medical center staff, and complemented through discussion with personnel from H&S and Plant Operations areas.



## Principle 7 | EMERGENCY RESPONSE

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

### Standard of Practice 7.1

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

The operation is  in full compliance with  
 in substantial compliance with Standard of Practice 7.1  
 not in compliance with

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

La Coipa has developed plans and procedures for responding to emergencies that involve potential accidental releases of sodium cyanide or HCN, and cyanide exposure incidents. The documents include a general emergency response plan (ERP) for cyanide (PGRECIAN-SS-01-22 Preparación y Respuesta a Situaciones de Emergencia con Cianuro - Preparedness and Response to Emergency Situations with Cyanide), which addresses response procedures for various types of emergencies in addition to those related to poisoning and impact on human life, such as: firefighting, hazardous leaks and spills of solid or liquid products, deviations in the control of the pH of solutions, HCN generation, natural disasters and others.

This plan is supported by other procedures that provide specific actions for responding to HCN release emergencies and cyanide spills in the mill, filtration plant and during transportation of cyanide. These procedures include Contingency Plan Annexes PGRECIAN-SS-01-22a to PGRECIAN-SS-01-22j.

The obligation to prepare plans, procedures or protocols for potential emergencies in a mineral processing plant is indicated in D.S. 132 Reglamento de Seguridad Minera (Mining Safety Regulation), which indicates in art. 326 the following: "All mineral treatment plant must have the procedure(s) to act in emergency situations, either due to operational or extra-operational contingencies. This must be complemented with the necessary supplies of elements and the periodic performance of simulations to evaluate, correct or confirm the validity of said procedures".

This requirement was verified through revision of written procedures and documentation for plant operation and emergency response and complemented through discussion with personnel from H&S, Emergency Response, and Plant Operations areas.



The ERP is supported by other procedures that provide specific actions for responding to HCN release emergencies and cyanide spills in all the processes and operational areas on which a physical form of cyanide is involved. These procedures include:

- a) Contingency Plan Annex PGRECIAN-SS-01-22a: Emergencia Operacional en Emergencias Catastróficas (Emergency Plant Shutdown). Related to emergency procedures I-FI-030 (Plant operation with emergency power), I-FI-036 (General Plant Shutdown) and I-CM-008 (Plant shutdown due to power outage)
- b) Contingency Plan Annex PGRECIAN-SS-01-22b: Accidentes en transporte en lugar o proximidad de operación (Transport accidents in the place or proximity of the operation), referred to cyanide spills during transport process, or into the mining operation (unloading, warehouse, or hydrometallurgical operations).
- c) Contingency Plan Annex PGRECIAN-SS-01-22c: Emisiones durante la descarga o mezcla (Emissions during discharge or mixing), referred to unexpected release of HCN during the hydrometallurgical process.
- d) Contingency Plan Annex PGRECIAN-SS-01-22d: Emisiones de cianuro durante incendios y explosiones (Cyanide emissions during fires and explosions),
- e) Contingency Plan Annex PGRECIAN-SS-01-22e: Rotura de líneas y tanques (Rupture of lines and tanks). Related to environmental procedures HS-C1 (Industrial and domestic waste management), and HS-C29 (Handling, storage and transportation of hazardous waste)
- f) Contingency Plan Annex PGRECIAN-SS-01-22f: Rebosamiento de piscinas y piletas en emergencia (Overflow of pools and secondary containments in emergency).
- g) Contingency Plan Annex PGRECIAN-SS-01-22g: Cortes de Electricidad y Falla de Bombas (Power Outages and Pump Failure)
- h) Contingency Plan Annex PGRECIAN-SS-01-22h: Filtraciones No Controladas (Uncontrolled Leaks)
- i) Not applicable, since the operation does not have a cyanide destruction stage in the hydrometallurgical process
- j) Contingency Plan Annex PGRECIAN-SS-01-22j: Falla en Instalaciones de Lixiviación (Failure in Leaching Facilities)

Note: The contingency plan annex PGRECIAN-SS-01-22i: Falla en Sistema de Destrucción de Cianuro (Cyanide Destruction System Failure), is actually referred as how to inject a cyanide solution into the hydrometallurgical process, in order to drastically reduce HCN emissions out of control in the process (equal to or greater than 6 ppm).

The ERP along with its complementary annexes and procedures, constitute a set of well-thought-out and articulated plans that addresses the potential release scenarios at the site in a realistic manner and with an appropriate degree of specificity.





This requirement was verified through revision of written procedures and documentation for plant operation and emergency response and complemented through discussion with personnel from H&S, Emergency Response and Plant Operations areas.

La Coipa takes ownership of the cyanide after delivery of the containers to the storage area at the point the cyanide Ecopaks® are removed from the container by La Coipa's forklift. Draslovka, (via its subcontractor Transportes Verasay Limitada – Verasay [[www.verasay.cl](http://www.verasay.cl)]) is responsible for transportation of cyanide to this point. Draslovka is responsible for responding to an emergency along the shipping route. Procedure P-TV-003 – Plan de Emergencia con Cianuro de Sodio (Sodium Cyanide Emergency Plan) was prepared by Verasay and addresses actions to respond to various transportation accident scenarios, including overturned vehicle, solid cyanide spillage, spillage associated with liquid, rain or open water, and fire. The procedure includes an inventory of the emergency response equipment carried with each cyanide transport convoy. Although La Coipa is not responsible for the transportation of cyanide, they would provide assistance as requested in the event of an accident.

Verasay is currently a signatory of the Cyanide Code, having addressed its last certification on May 10<sup>th</sup>, 2022 (<https://cyanidecode.org/sig-directory-type/transportes-verasay-ltda-chile/>).

La Coipa works together with Draslovka and Verasay to ensure that all transportation related emergencies are considered and that emergency response plans for such incidents are on file and up to date.

The transporter and Draslovka have responsibility for addressing any off-site incident. Incidents involving off-site and/or transportation of cyanide to La Coipa would be called into Draslovka hotline. Draslovka would then send a team of specialists and/or responders to the scene, as necessary.

This requirement was verified through revision of written procedures and documentation for plant operation and emergency response and complemented through discussion with personnel from H&S, Emergency Response and Plant Operations areas.

The documents that refer to emergency response management in La Coipa consider the various aspects related to potential emergencies with a sodium cyanide leak or spill (solid or in solution) or HCN generation. Elements were found describing and referring to:

- a) Specific actions, related to potential leak or spill scenarios, and the potential impact on people, communities, the environment, and operations,
- b) First aid and use of antidotes for cyanide poisoning,
- c) Control of leaks and spills from the source, and
- d) Containment, risk assessment, mitigation, and future prevention of leaks or spills.

The contingency plan addresses these items directly or through annexes.



In the case of first aid procedures, it has to be considered not only the documents issued by La Coipa, but also the ones issued by Mutual related to first aids,.

In the case of leaks and spill scenarios inside the operation, it has to be considered that that the entire hydrometallurgical plant has containment systems installed or built around tanks and fluid pipes. Also, it is important to mention that of all the possible scenarios identified in La Coipa, none of them imply an affectation to bodies of water (lakes, lagoons or rivers).

All the documents indicated La Coipa ERP and supporting procedures describe appropriate actions to be taken in the event of a cyanide spill. These documents specifically address treatment procedures for personnel who may have been exposed to cyanide and procedures for evacuation of the mine. As La Coipa is located in a remote area, and Copiapó is the nearest city located approximately 140 km from the mine site, and local communities are no closer than 40 km away from the site, the contingency plan and procedures do not include emergency considerations for communities. The cyanide transporter addresses emergency response actions for cyanide transport in case of emergencies near communities in its emergency plan.

The contingency plan of La Coipa defines team member responsibilities, communication procedures for notifying outside emergency response resources, government agencies, the community, other stakeholders and the media.

This requirement was verified through revision of written procedures and documentation for plant operation and emergency response and complemented through discussion with personnel from H&S, Emergency Response and Plant Operations areas.

### Standard of Practice 7.2

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

The operation is  in full compliance with  
 in substantial compliance with Standard of Practice 7.2  
 not in compliance with

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

La Coipa has considered its workers within the planning of the response to cyanide emergencies. It should be considered that the emergency response brigade is made up of workers on duty within their respective areas in operations (such as sodium cyanide warehouses, cyanide solution preparation, leaching, hydrometallurgical circuit, tailings management, mechanical maintenance) and members dedicated full-time to emergency response, along with staff from the medical center.



However, external stakeholders have not been considered in cyanide emergency first response planning, for two main reasons:

- Because the isolation of the mining operation from populated centers or nearby cities makes it unfeasible to have external support in the first response in emergencies, especially with cyanide, and
- Because the isolation of the mining operation from nearby populated centers or cities, as well as the absence of nearby water bodies, make any impact on external stakeholders or the environment potentially remote (almost impossible), and with very low impact.

Every employee and contractor at La Coipa receive cyanide awareness and basic emergency response training, aside from their roles and responsibilities on the operation. Members of the emergency response brigade receive a more extended and complex training on sodium cyanide and HCN related emergencies. The coordinators of the Emergency Response brigade have a more extended training, considering all the potential emergency scenarios in La Coipa, including cyanide related emergencies, emergencies with other chemicals, and other kind of potential emergencies in the operation. Medical center staff are trained and qualified on medical emergencies, specifically on intoxications with cyanide, symptomatology, and the adequate treatment to apply (including antidote intravenous application).

In terms of external support, La Coipa has considered two sources of external potential support:

- Support from medical centers in Copiapó and other cities in Chile, coordinated by Mutual, and
- Second response support, technical cleanup and hazardous waste management, by Ambipar

Neither of these two sources of support in case of emergencies are considered as first response, due to

- The isolation of La Coipa, the distance and time it would take to have external resources in the operation, and
- The high level of preventive preparation and emergency containment and response elements that La Coipa has, both for chemical emergencies due to leaks or spills, and worker poisoning.

This requirement was verified through site inspection, contingency plan and documents review, training records review, interview with workers, medical center staff, and emergency response coordinators, and discussion with personnel from H&S, Emergency Response and Plant Operations areas.

There are no indigenous groups or communities within many kilometers of the mine site; the nearest human habitation consists of one small family group located near the



road to the mine, about 40 km to the southwest of La Coipa. Also, there are no bodies of water in areas close to La Coipa that could be affected in the event of cyanide leaks or spills, and therefore could affect nearby, medium-distance or distant communities.

This requirement was verified through contingency plan and documents review, geological and geographical location maps of La Coipa and the nearest communities and cities, and discussion with personnel from H&S, Emergency Response and Plant Operations areas.

External stakeholders have not been considered in cyanide emergency first response planning, for two main reasons:

- Because the isolation of the mining operation from populated centers or nearby cities makes it unfeasible to have external support in the first response in emergencies, especially with cyanide, and
- Because the isolation of the mining operation from nearby populated centers or cities, as well as the absence of nearby water bodies, make any impact on external stakeholders or the environment potentially remote (almost impossible), and with very low impact.

Even though, in terms of external support, La Coipa has considered two sources of external potential support:

- Support from medical centers in Copiapó and other cities in Chile, coordinated by Mutual, and
- Second response support, technical cleanup and hazardous waste management, by Ambipar

Neither of these two sources of support in case of emergencies are considered as first response, due to

- The isolation of La Coipa, the distance and time it would take to have external resources in the operation, and
- The high level of preventive preparation and emergency containment and response elements that La Coipa has, both for chemical emergencies due to leaks or spills, and worker poisoning.

This requirement was verified through site inspection, contingency plans and documents review, and discussion with personnel from H&S, Emergency Response and Plant Operations areas.

In terms of external support, La Coipa has considered two sources of external potential support:

- Support from medical centers in Copiapó and other cities in Chile. The engagement or coordination will be held by Mutual, and



- Second response support, technical cleanup and hazardous waste management, by Ambipar, which is a contractor of La Coipa. Its participation is being regulated by a contractual agreement.

The main stakeholders that La Coipa considers for cyanide management are its own workers. In this sense, the dialogue and consultation process is regular and constant, taking their opinion not only in terms of occupational safety and health, but also in preparation for emergency response, especially with cyanides.

This requirement was verified through contingency plan and documents review, and discussion with personnel from H&S, Emergency Response and Plant Operations areas.

### Standard of Practice 7.3

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

The operation is  in full compliance with  
 in substantial compliance with Standard of Practice 7.3  
 not in compliance with

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

The Emergency Response Plan considers the following cyanide-related elements:

- a) Emergency response coordinators have been designated, both by plant areas and by work shifts. It should be considered that not only any member of the brigade, but also any person in the operation, can request the activation of the emergency response, considering their right to safe work and access to communication media within the operation. No emergency alert is anonymous, the origin of said alert should always be considered in the report and in the incident investigation, be it a person or an automated alert element. Brigade leaders or the emergency response coordinator have the authority to request the release of material and personal resources to deal with cyanide-related emergencies.
- b) Emergency response teams first consider the emergency response coordinator on duty in the operation (permanently dedicated personnel for emergency preparedness and response). They also consider those responsible for H&S on duty, supervisors on duty at the plant, and plant workers on duty who are part of the emergency response brigade. In each job rotation, one emergency response squad leader and one alternate are considered.
- c) The contingency plan considers the levels of training in emergency response with sodium cyanide of all the people in the operation, being the same:
  - General induction in warning of risks with cyanide
  - Specific risks of sodium cyanide according to jobs
  - Emergencies due to HCN generation outside the operating parameters



- Response to emergencies due to contact or cyanide poisoning (first response for all workers in warehouses and in the operations plant, advanced level for medical center personnel)
  - Emergency response due to sodium cyanide spills or leaks (including technical cleanup and environmental remediation)
- d) Not only the communication channels in case of emergency are considered, but also the communication protocol and call to personnel of the emergency response brigade. Calls to the coordinator and brigade leaders (designated or alternate on shift), call and activation to members of the emergency response brigade, and activation of medical center personnel are considered.
- e) The contingency plan specifies the tasks and responsibilities that correspond to the coordinator and leader of the emergency response brigade, the members of the emergency response brigade, and the members of the medical center. Likewise, if external support to Ambipar is required, the scope of the required support activities is considered, such as waste collection, technical cleaning or environmental remediation.
- f) The H&S area has checklists of the emergency response equipment and materials that are available in the operation, both those distributed within the plant and warehouse, as well as those available at the emergency response base and in the emergency response vehicles.
- g) La Coipa's contingency plan, as well as the Mutual medical center and emergency care management procedure, consider the regular inspection of materials, equipment and consumables for emergency response, especially those that may occur with cyanide. Not only the inventory is considered, but the expiration dates, calibrations requirements, replacement dates or limits of use, and the temperature conditions in which they must be stored, if applicable.
- h) Potential external support in case of emergency considered are:
- External hospitals, beginning with those located in the city of Copiapó. The coordination would be held by Mutual. The role considered in the case of cyanide poisoning is that of medical follow-up of potential poisoned patients who have already received first aid and even application of antidotes. In the worst case, the application of a second dose of antidote is considered as a follow-up, although the use of medical oxygen with a mask and humidifier at a high rate (up to 15 liters per minute), or even the use of hyperbaric chamber. However, this role is quite limited, considering that practically all the elements to treat cyanide poisoning are available at the mine medical center.
  - Ambipar, for the provision of two types of services. Firstly, the call for professional brigade members for specific cases that require high levels of protection or high-risk operations (such as rescue of victims in confined spaces or recovery of corpses from leaching, thickening or clarification tanks). Second, the provision of technical cleaning services, environmental remediation, and disposal of cyanide-contaminated hazardous waste.



This requirement was verified through plant visit, emergency response base visit and inspection, contingency plan and documents review, interview to workers and medical center staff, and discussion with personnel from H&S, Emergency Response and Plant Operations areas.

The potential involvement of external support entities in case of emergencies in La Coipa, has been coordinated and confirmed as follows:

- In the case of medical centers in Copiapó or nationwide, through Mutual
- In the case of Ambipar, by extension of the contractual agreement. Currently, Ambipar has a contract for the handling and disposal of empty sodium cyanide packages as hazardous waste. Ambipar has divisions in Chile that provide training services in emergency response (which has already provided services to the La Coipa brigade), and that provide second response services in emergencies involving hazardous chemicals. The current contract with Ambipar allows La Coipa to request support services in case of emergency, the latter accepting Ambipar's commercial service conditions.

This requirement was verified through contingency plan and documents review, review of contracts between La Coipa and Mutual, and La Coipa and Ambipar, interview to medical center staff, and discussion with personnel from H&S, Emergency Response and Plant Operations areas.

#### Standard of Practice 7.4

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

The operation is  in full compliance with  
 in substantial compliance with Standard of Practice 7.4  
 not in compliance with

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

The Contingency Plan of La Coipa provides procedures for notifying management and defines the roles and responsibilities for communication to management, regulatory agencies and outside responders. A flow diagram is provided that summarizes the communication chain.

As indicated in requirement 6.3(3), workers are trained to initiate emergency response procedures by contacting any emergency number on the operation: gatehouse, control room, on site medical center, or using radio channel 2.

The control room initiates a series of calls that includes contacting the area supervisor who confirms the emergency and requests the emergency brigade; contacting the



emergency coordinator who activates partially or totally the emergency response brigade, including the medical center.

Depending on the emergency level and the kind of emergency occurred, there will be run a communication chain, which will escalate to the General Manager of the company.

In the case of major impact on life and health of workers, there will be activated the medical center emergency response protocols, and eventually the need of external medical services. The evacuation will be initiated on the mine site, and external coordination will be held by Mutual from their office in Copiapó or Santiago.

In the case of major impact on environment, or loss of containment of major quantities of solid or liquid cyanide, it will be requested the services of Ambipar either as an external brigade support for hazardous works in highly contaminated areas, providing services for technical cleaning and environmental remediation, or providing hazardous waste disposal services.

In the case of major events, La Coipa would be requested to notify Chilean government agencies, as Ministry of Mining ([www.minmineria.cl](http://www.minmineria.cl)), Sernageomin - Servicio Nacional de Geología y Minería (National Geology and Mining Service, [www.sernageomin.cl](http://www.sernageomin.cl)), and Senapred - Servicio Nacional de Prevención y Respuesta ante Desastres (National Disaster Prevention and Response Service, [www.senapred.cl](http://www.senapred.cl)) (formerly ONEMI - Oficina Nacional de Emergencia del Ministerio del Interior [National Emergency Office of the Ministry of the Interior]).

As an additional element with the potential to provide emergency response resources in case of disasters, La Coipa (through the Kinross corporate offices in Chile), could request the support of other mining companies through Sonami (Sociedad Nacional de Mining).

This requirement was verified through contingency plan and documents review, interview to workers and medical center staff, and discussion with personnel from H&S, Emergency Response and Plant Operations areas.

Because of the remoteness of the operation the probability for a cyanide incident impacting a community is considered extremely low. However, in the event that such an incident was to occur, La Coipa would initiate its crisis management protocol. The plan would be initiated in situations that involve a serious accident or fatality; damage to adjacent property, bomb threat; environmentally significant incident, road blockage or need of evacuation of a community. The crisis management team comprises management from both La Coipa and Kinross Corporate. The plan sets out procedures for communicating with communities and media during potential or actual emergencies with major impact on human lives or environment.





This requirement was verified through contingency plan and documents review, and discussion with personnel from Corporate Communications and P.R. (Public Relations), H&S, Emergency Response and Plant Operations areas.

La Coipa contingency plan includes a requirement and details to notify ICMI of any significant cyanide incidents, as defined in ICMI's *Definitions and Acronyms* document. Such incidents have not occurred during this certification period.

This requirement was verified through contingency plan and documents review, and discussion with personnel from Corporate Communications and P.R., H&S, Emergency Response and Plant Operations areas.

### Standard of Practice 7.5

*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 Standard of Practice 7.5  
 not in compliance with

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

The Contingency Plan PGRECIAN-SS-01-22 and its annexes, and Procedure I-MA-007 – Control Operacional de Derrames de Sustancias Peligrosa (Operational Control of Spills of Hazardous Substances) provide specific instruction on the mixing and application of chemicals on likely cyanide release scenarios, describing the following specific remediation measures:

- a) In the case of sodium cyanide solids, cyanide-containing soils, or cyanide-containing solutions (in high or low concentration), it will be preferable to derive said materials to grinding or leaching tanks, in order to incorporate them back into the hydrometallurgical process and eliminate the need to carry out a neutralization that implies the use of additional chemical inputs in solid or liquid materials.
- b) The use of chemicals to neutralize cyanide in soils will be used when it is not feasible to collect contaminated or impacted soils, such as asphalt or concrete soils. In these cases, one of three options will be considered:
  - Hydrogen peroxide solution (between 5 and 10%)
  - Calcium hypochlorite solution (between 5 and 15%)
  - Sodium hypochlorite solution (between 5 and 15%)

For emergency response cases, 04 (four) 45-kilogram drums of 70% calcium hypochlorite in dry flakes are kept in stock in the emergency response base, for the preparation of a liquid solution. Likewise, the use of the stock of sodium



hypochlorite solution that is kept in maintenance warehouses for office cleaning is considered as potential use in case of contingency. This stock is usually not less than 10 (ten) gallons, at a concentration of 5%. In the case of requiring hydrogen peroxide, it would have to be obtained externally, since said chemical material is not part of the regular stock in the mine's operation. In all cases, the greatest volume of solutions generated must be recovered, in order to prevent them from reaching soils with the potential to absorb or percolate the neutralizing or neutralized solutions, and therefore generate an environmental impact.

In the remote case that there is a need to decontaminate large volumes of non-current water with cyanide content that cannot be reincorporated into the hydrometallurgical process, the use of ferrous sulfate will be considered, to the extent that a tank can be available that allows perfect mixing and agitation of contaminated water with the neutralizing chemical, keeping control of the release of decontaminated water into the environment.

The decontamination of other contaminated elements will proceed to the extent that it is neither feasible nor economic to dispose of said materials, such as light and heavy vehicles. The PPE used in the emergency response and decontamination process will preferably be collected, packaged and disposed of as hazardous waste.

- c) As in the case of the used PPE, all the disposable materials used or the debris generated on the clean-up process of a cyanide spill, will have to be collected, packaged and disposed as hazardous waste.
- d) The provision of an alternate drinking water supply is not considered a specific direct requirement in the contingency plan of La Coipa, since there are no communities located in the proximity of the mine, there is no potential of contamination of water sources on the proximity of the operations, and La Coipa uses bottled drinking water.

This requirement was verified through contingency plan and documents review, and discussion with personnel from H&S, Emergency Response and Plant Operations areas.

Even though La Coipa does not have surface water bodies in areas close to the operation, the emergency response plan explicitly prohibits the use of chemicals in cyanide-contaminated water bodies, whether stagnant or flowing. For this reason, the release into water of hydrogen peroxide, sodium hypochlorite, calcium hypochlorite or ferrous sulfate is prohibited. The Verasay contingency plan also explicitly prohibits the use of neutralizing chemicals in bodies of water potentially contaminated with cyanide. In both cases, this requirement is presented on the following considerations:

- Due to the risk that the chemical elements added to the water percolate towards the groundwater table or impact other surface waters, and
- Because there is no operational guarantee that cyanide in water will mix with the chemical element that can be added to a body of water, even more so if it is running water.



This requirement was verified through contingency plan and documents review, and discussion with personnel from H&S, Emergency Response and Plant Operations areas.

Procedure I-MA-007 – Control Operacional de Derrames de Sustancias Peligrosa (Operational Control of Spills of Hazardous Substances) provides a method to evaluate an impacted area through sampling and analysis of cyanide and pH concentrations. In general, excavation of impacted soil is continued until no evidence is visible, and the procedure calls for over-excavation to ensure all impacted soil is addressed. The document describes procedures for soil sampling including methodologies, parameters and the final cyanide concentration that will be allowed in residual soils as evidence that the spill has been completely cleaned up.

Also, the construction of test pits is being considered for the purpose of installing monitoring points for the potential percolation of cyanide solutions into the groundwater table. Although it is not a possibility considered within the reality of La Coipa's operations, the need to establish sampling points and monitoring of potentially contaminated streams downstream is indicated, for a period of time of not less than 72 hours after an incident occurred. potential event.

This requirement was verified through contingency plan and documents review, and discussion with personnel from H&S, Emergency Response and Plant Operations areas.

### Standard of Practice 7.6

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

The operation is  in full compliance with  
 in substantial compliance with Standard of Practice 7.6  
 not in compliance with

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

La Coipa's procedures have been prepared and updated between February and November 2022. They indicate a review and update term of no more than one year from the date of the last review, although shorter terms are considered for review and update in case of relevant events, such as: real incidents, relevant national or global case studies, changes in Chilean legislation, changes in Kinross corporate standards.

This requirement was verified through contingency plan and documents review, and discussion with personnel from H&S, Emergency Response and Plant Operations areas.

La Coipa conducts monthly mock emergency drills according to an annual mock drill plan included in the operational procedure for trainings and drills. At least two drills per year



have to be related to cyanide and are based on cyanide release/exposure scenarios to test the response procedures, and incorporate lessons learned from the drills into its response planning.

Drills are developed to include a variety of locations and scenarios including environmental release and exposure responses. Internal observers are included in the drill to evaluate the response. La Coipa evaluates the mock drills and identifies corrective actions. A debrief is conducted after each drill to identify lessons learned from the drills and corrective actions to be taken.

Auditors reviewed that it has been programmed for 2023 the execution of at least two complex cyanide drills is on the agenda, considering scenarios that require decontamination of contaminated personnel, and advanced procedures for the evacuation of victims and application of advanced first aid. This programming considers only the participation of personnel and internal resources within the operation. The participation of external elements for medical support or for environmental impacts has not been considered, considering the distance and time it would take to mobilize these resources from outside the operation.

This requirement was verified through contingency plan and documents review, training and drills records, and discussion with personnel from H&S, Emergency Response and Plant Operations areas.

Contingency Plan PGRECIAN-SS-01-22 includes a chapter referring to Updates and Change Control. It indicates the basic assumptions for updating, reviewing or changing the contingency plan or the documents related to it. Among these basic assumptions are considered:

- Minimum review period: 12 months
- Reviews and updates to be made by:
  - o Technological change
  - o Change in the process cycle of the operation
  - o Relevant social changes in the area of influence of the operation
  - o Findings and learning during training execution
  - o Findings and learning during the execution of simulations and directed practices
  - o Findings and lessons learned during incidents or accidents that occurred in La Coipa
  - o Findings and learnings during incidents or accidents at Kinross mining operations
  - o Findings and lessons learned during incidents or accidents that occurred in mining operations in Chile or worldwide
  - o Changes or requirements in Chilean national legislation
  - o Changes or requirements in Kinross corporate standards



- Changes or requirements in voluntary certification standards, such as ISO standards or the Cyanide Code

No update of the Plan was performed due to cyanide incidents as no such emergencies requiring its activation occurred since the restart of operations in La Coipa from February 2022 to date.

This requirement was verified through contingency plan and documents review, training and drills records, and discussion with personnel from H&S, Emergency Response and Plant Operations areas.



## Principle 8 | TRAINING

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

### Standard of Practice 8.1

*Train workers to understand the hazards associated with cyanide use.*

The operation is  in full compliance with  
 in substantial compliance with Standard of Practice 8.1  
 not in compliance with

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

All La Coipa workers and contractors receive induction training prior to being permitted on the mine site. This is provided by Training and Safety departments personnel. The training includes general site hazards, PPE requirements, emergency response and a basic introduction on cyanide hazard recognition.

All new employees that work in the plant then undertake further induction training provided by the Safety Department and by the plant management by means of the trained supervisor for these activities. This training addresses plant specific hazards and includes cyanide awareness training. The training includes characteristics of cyanide, precautions to prevent exposure, PPE, monitoring, symptoms of cyanide exposure, first aid, and emergency response. In addition to the induction training provided by the Health and the Safety (H&S) Department, the Environmental Coordinator also provides environmental induction training. This training includes hazardous materials management, spill prevention and emergency response. This training also addresses cyanide as well as other hazardous materials.

The legal requirement for this training is indicated in D.S. 40 (Regulation on the Prevention of Professional Risks – Chile), D.S. 132 (Mining Safety Regulation – Chile), and detailed in procedure P-CD-01.

This requirement was verified through review of training records, training materials and discussion with the Training Superintendent, Safety Coordinator, Environmental Coordinator, with the head of training and continuous improvement, general plant production coordinator and the Cyanide Code champion on site. .

Cyanide hazard refresher training will be conducted for all workers and management, including contractors that work in the plant. This requirement was verified through review of training procedures and programming, with the Training and Safety departments with the Head of Training and Continuous Improvement, planned by the operational area and coordinated jointly. This schedule is consistent with the fact that La Coipa has restarted operations in 2022 and is still less than a year from the completion



of the first general training campaign in safety and emergency response with sodium cyanide.

The legal requirement for this refresher training is indicated in D.S. 40 (Regulation on the Prevention of Professional Risks – Chile), D.S. 132 (Mining Safety Regulation – Chile), and detailed in the procedure P-CD-01.

This requirement was verified through review of training records, training materials and discussion with the Training Superintendent, Safety Coordinator and Environmental Coordinator.

The operation retains the training records pertaining to cyanide hazard recognition and was to demonstrate that personnel received both initial and refresher training in cyanide hazard recognition. The auditors reviewed training records for workers interviewed during the field audit. The records identify the trainer, trainee, topics covered, date and sign off sheet. Also, there were reviewed the records of the evaluations completed by the participants at the end of the training received. These written records were supplemented with video recording and photographs. This requirement was verified through review of a sample of records covering the certification period.

The legal requirement for this training records retention is indicated in D.S. 40 (Regulation on the Prevention of Professional Risks – Chile), D.S. 132 (Mining Safety Regulation – Chile), and detailed in the procedure P-CD-01.

This requirement was verified through review of training records, training materials and discussion with the head of training and continuous improvement, general plant production coordinator and the Cyanide Code on site.

#### Standard of Practice 8.2

*Train appropriate personnel to operate the facility according to systems and procedures that protect human health, the community and the environment.*

The operation is  in full compliance with  
 in substantial compliance with Standard of Practice 8.2  
 not in compliance with

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

All personnel involved in every stage of sodium cyanide management and handling is trained in La Coipa to perform their assigned tasks in a safe and environmentally sound manner. Task training is focused to instruct new employees on how to accomplish their



assigned tasks safely and ensuring that the tasks are accomplished in a manner that prevents exposures and releases.

Formal training in working procedures was reviewed for all cyanide-related tasks including cyanide unloading, mixing (preparation of cyanide solution and bags rinsing), cyanidation process (leaching tanks, clarification and thickening tanks Merrill-Crowe process) and tailings management (filtration process and tailings dam). Aside to the specifics in the industrial operation involved (as use of cyanide in the process, handling and use of cyanide, preparation of sodium cyanide, procedures for safe storage, overhead crane handling, forklift handling), they are included topics related to, cyanide dosing points, HCN measurement method, HCN alarms, cyanide exposure, HCN poisoning, PPE per operation and level of exposure to sodium cyanide or HCN, treatment of patients intoxicated with cyanide, and response to cyanide emergencies.

The records for these trainings are kept by Training area, and also in the personal file of each worker. This requirement was verified through review of training records, training materials and discussion with the Training Superintendent, Safety Coordinator and Environmental Coordinator.

The legal requirement for this advance training on sodium cyanide safety and emergency response preparation is indicated in D.S. 40 (Regulation on the Prevention of Professional Risks – Chile), D.S. 132 (Mining Safety Regulation – Chile), and detailed in procedure P-CD-01.

This requirement was verified through review of training records, training materials and discussion with the head of training and continuous improvement, general plant production coordinator and the Cyanide Code on site..

Operational procedures and cyanide management procedures collectively form the basis for the training program. As part of operator-specific training, the program details all hazards (physical, electrical, gravitational and chemical) associated with each area of the plant and activity the worker will encounter when undertaking work assignments. The program identifies the safety and monitoring equipment in-place, warning signage, PPE requirements, and procedures to be followed to minimize risks associated with those hazards. Training requirements associated with the operational procedures applicable to each area/process in the plant that must be completed to the satisfaction of the supervisor before a worker is allowed to work unsupervised in that area or process.

The legal requirement for this advance training on sodium cyanide safety and emergency response preparation is indicated in D.S. 40 (Regulation on the Prevention of Professional Risks – Chile) Art. 21, in which employers are obliged to inform employees of the risks in the workplace, also known as “Derecho a Saber” (Right to Know), D.S. 132 (Mining Safety Regulation – Chile), and detailed in procedure P-CD-01.





This requirement was verified through review of training records, training materials and discussion with the Training Superintendent, Safety Coordinator and Environmental Coordinator.

The task specific training is conducted as an on-the-job training program, where experienced supervisors train process workers before they are allowed to work by themselves in the process plant. A training program for specific training required by each process plant worker was evidenced by the auditors. The auditor reviewed the presentations, training materials, tests and records of these training sessions from February 2022 on forward, were found to be complete and appropriate for each individual task that involve sodium cyanide usage or presence.

Task specific training to operators is provided by process supervisors and shift managers, who have each one of them extensive years of experience in the tasks and working areas for which they provide training. Supervisors and shift managers are considered qualified to provide training based on their experience. Also, they have received specific training on sodium cyanide hazards provided by their sodium cyanide provider (Draslovka).

This requirement was verified through review of training records, training materials and discussion with the Training Superintendent, Safety Coordinator and Environmental Coordinator.

La Coipa employees and contractors are provided with induction training that includes cyanide hazard recognition prior to working on the site. All employees that work with cyanide are also provided with cyanide awareness and hazard training which includes cyanide hazard recognition, exposure symptoms and appropriate emergency response actions. Trainees are required to undertake and pass an examination. Operational training is provided when an employee is first hired or first assigned to a new work area involving cyanide. Operational training is supervised, and supervisors must sign off on an employee's ability to safely conduct the required work before they are authorized to work without direct supervision.

The legal requirement for training on sodium cyanide safety prior to working with the product or in areas where it can be presence of it or HCN, is indicated in D.S. 40 (Regulation on the Prevention of Professional Risks – Chile) Art. 21, in which employers are obliged to inform employees of the risks in the workplace, also known as “Derecho a Saber” (Right to Know), D.S. 132 (Mining Safety Regulation – Chile), and detailed in procedure P-CD-01.

This requirement was verified through review of training records, training materials and discussion with the Training Superintendent, Safety Coordinator and Environmental Coordinator.



La Coipa employees and contractors will have a refresher training, which will include the topics referred to sodium cyanide and HCN awareness, hazards and risks, and for the performance of specific cyanide-related tasks. In this last case, field evaluations are carried out in the form of task observations, carried out by the respective area supervisors. The results of these evaluations are kept on record in each worker's file.

The legal requirement for this refresher training is indicated in D.S. 40 (Regulation on the Prevention of Professional Risks – Chile), D.S. 132 (Mining Safety Regulation – Chile), and detailed in the procedure P-CD-01.

This requirement was verified through review of training procedures and programming, with the Training and Safety departments Superintendent (Training) and coordinators. This schedule is consistent with the fact that La Coipa has restarted operations in 2022 and is still less than a year from the completion of the first general training campaign in safety and emergency response with sodium cyanide.

La Coipa evaluates the effectiveness of cyanide training by written testing and on-the-job observation. La Coipa requires written tests to evaluate the effectiveness of cyanide training. Following classroom training, every employee is first supervised in the performance of the operational functions assigned to him/her. The supervisor will determine when that individual is then able to perform the task on his/her own. Records of written tests and the employees' understanding of cyanide are retained.

Training records and testing results were reviewed for the audit recertification period and were found to be complete. Verification was by interview with training and process personnel, and a review of training records.

This requirement was verified through review of training records, training materials and discussion with the Training Superintendent, Safety Coordinator and Environmental Coordinator.

Training records are retained not only as group records, but as individual records throughout employment history. The records identify the trainer, trainee, topics covered, date and sign off sheet. The results of the testing are also maintained as part of the files. Written tests are completed to demonstrate the employees understanding of the training materials. The training materials are either PowerPoint presentations, as in the case of induction training and cyanide hazard and refresher training, or the actual standard operating procedures in the case of task training.

This requirement was verified through review of training records, employee's personal files, and discussion with the Training Superintendent, Safety Coordinator and Environmental Coordinator.



### Standard of Practice 8.3

*Train appropriate workers and personnel to respond to worker exposures and environmental releases of cyanide.*

The operation is  in full compliance with  
 in substantial compliance with Standard of Practice 8.3  
 not in compliance with

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

Cyanide unloading, mixing, production and maintenance personnel are trained in the requirements of operational procedures as well as relevant cyanide management procedures, including emergency response procedures.

Cyanide unloading, mixing, production and maintenance personnel are trained in the procedures to be followed if cyanide is released, to decontaminate a cyanide exposure victim and bring first aid support, considering also if they have to apply this emergency response measures to themselves. The requirements of operational procedures including emergency response procedures are covered in trainings, which includes topics such as oxygen therapy, treatment and first aid to intoxicated patients, and emergency response.

Employees working with cyanide receive specific training in the operational procedure for cyanide emergencies and response to spills including containment, stabilization, neutralization, decontamination, first aid, cyanide antidotes usage and oxygen dosing. The cyanide emergencies procedure addresses several cyanide exposure scenarios such as cyanide transportation incidents, spills and cyanide exposure (through inhalation, absorption by skin or eyes contact, and ingestion). In addition, the procedure describes decontamination procedures, evacuation and cleanup measures.

Control room operators receive task training on emergency response to cyanide releases. Control room operators remain in the control room, which is on a separate air supply area, to carry out these procedures. These include tasks referred to emergency plant stoppage and emergency communications (for plant evacuation and for requesting emergency response support).

This requirement was verified through review of training records, training materials and discussion with the Training Superintendent, Safety Coordinator and Environmental Coordinator, as well as interviews with operators, process and training personnel. Operators and maintenance personnel in the different process areas were interviewed and demonstrated good awareness of what actions are to be taken in the event of a cyanide release.



The emergency brigade is comprised of operators, supervisors and shift supervisors that are experienced in plant operations. They are led by professional emergency responders, who cover shifts at the emergency headquarters at the mining operation. At a minimum, members of the brigade are required to have completed training in the following areas: firefighting, hazmat, height rescue, confined space, and first aid. The professional emergency responders have advanced training in these topics, as well as vehicular rescue, rope rescue, and rescue in collapsed structures. Within the training topics that the members of the emergency response brigade receive, the elements relevant to emergencies with sodium cyanide are considered. In particular, they are considered topics regarding toxicology, first aid, and attention to leaks and spills of solid and liquid sodium cyanide. In the latter case, the training considers the use of PPE for chemical and respiratory protection, the use of chemical absorbent elements, and protocols for handling, recovery and/or encapsulation of solid or liquid sodium cyanide.

La Coipa also has two emergency response services with a permanent presence in the operation: a medical center (with a physician and registered nurses), and an ambulance service. The medical personnel have received training in particular, in the application of intravenous antidotes, evaluation and follow-up of symptoms and medical conditions for treatment of the poisoned with cyanide. On their off-hours, the physician, nurses and ambulance drivers sleep at the mine to ensure that medical assistance is available at the mine at all times. The medical center and ambulance service is operated by the company Mutual de Seguridad CChC (<https://www.mutual.cl/>), which is a national provider authorized to provide medical and occupational health services, in this case particularly to mining companies. Medical and ambulance personnel are on the payroll of this company.

In the case of first aid, brigade members have been trained in the use of medical oxygen, use of safety showers and decontamination of people, and immobilization and transfer of the wounded. In a complementary way, the medical personnel have advanced training in the treatment of people intoxicated with sodium cyanide, advanced monitoring of medical conditions (such as oxygen saturation, heart rate, blood pressure, temperature), application of injectable antidotal elements by intravenous infusion, and in general for prehospital care and life support.

The advanced training in emergencies with sodium cyanide was provided to the professional emergency responders, medical staff and training staff by Draslovka. The last advanced training in hazmat emergencies response was provided by Ambipar CHILE (<https://ambipar.com/latam/?c=chile>).

This requirement was verified through review of training records, training materials and discussion with the Training Superintendent, Safety Coordinator and Environmental Coordinator, as well as interviews with operators, process and training personnel, brigade members, and medical area members. The topics considered into these trainings are detailed in the procedure P-CD-01.



Because of the remoteness of the site, La Coipa has developed the capacity (i.e., skills, materials and equipment) to respond to all probable emergencies. In the unlikely event that additional backup is required, the Copiapó Fire Department can be called upon for assistance, in the event of a large fire or a complex situation requiring technical rescue. In the case of emergencies that involve hazardous materials that exceed the response capabilities of the operation, La Coipa can request the support of brigade and equipment from the company Ambipar CHILE. This company currently manages the empty cyanide packaging and provides specialized training to the operation's brigade on hazardous materials emergencies.

The medical services provided on mine site by Mutual's medical personnel are available 24 hours in the event of an emergency. They are familiar with the emergency response plan and participate in emergency simulations and emergency responses. If there is a need to involve the local hospital, Mutual has on-going communication with doctors at the local hospital in Copiapó, and in all major cities within Chile. However, the majority of treatment would be undertaken onsite as the ambulance drive from the site to the hospital takes about 2 hrs. The hospital staff is therefore well prepared to respond to an emergency request to receive a patient exposed to cyanide.

This requirement was verified through with the Safety Coordinator and Environmental Coordinator, as well as interviews with brigade members, and medical area members. The considerations for external support are detailed in the procedure P-CD-01, as well as in the service contracts between La Coipa and Mutual, and La Coipa and Ambipar CHILE.

La Coipa employees and contractors will have a refresher training, which will include the topics referred to sodium cyanide and HCN awareness, hazards and risks, and work safety involving usage of sodium cyanide or presence of HCN. This requirement also includes refresher training for the emergency response brigade members, related to the level of involvement they will have in case of an emergency. This refresher training will be conducted annually or less, depending on the rotation of the personnel that make up the emergency response brigade (exit of personnel, entry of new personnel, and/or new members within the brigade).

This requirement was verified through review of training procedures and programming, with the Training and Safety departments Superintendent (Training) and coordinators. This schedule is consistent with the fact that La Coipa has restarted operations in February 2022, and is still less than a year from the completion of the first general and specialized training campaign for the emergency response brigade members.

Records of emergency response cyanide training and hazardous materials emergency response training are retained not only as group records, but as individual records throughout each brigade member history. The records identify the trainer, trainee,



topics covered, date and sign off sheet. The results of the testing are also maintained as part of the files. Written tests are completed to demonstrate each brigade member understanding of the training materials. The training materials are either PowerPoint presentations, or the actual standard for emergency response from La Coipa. In the case of training developed by an external company (in the case of Ambipar CHILE), there is a certificate emitted for each brigade member that participated, as well as copy of the training material used.

This requirement was verified through review of training records, brigade members personal files, and discussion with the Training Superintendent, Safety Coordinator, Environmental Coordinator, and Emergency Response Brigade Leader.



## Principle 9 | DIALOGUE AND DISCLOSURE

Engage in public consultation and disclosure.

### Standard of Practice 9.1

*Promote dialogue with stakeholders regarding cyanide management and responsibly address identified concerns.*

The operation is  in full compliance with  
 in substantial compliance with Standard of Practice 9.1  
 not in compliance with

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

The most significant stakeholders in La Coipa are employees, contractors, and their families. They are small local groups of seasonal livestock farmers approx. 40 km from the operation. The Kinross local offices are in Copiapó city. La Coipa provides the opportunity for stakeholders to communicate issues of concerns through frequent dialogue and engagement with communities of the influence area. The operation has a community attention system (i.e., complaint and grievance mechanism) where communities can raise concerns related to mining activities, including issues related to cyanide management in the operations. This mechanism is openly communicated through different means (i.e., brochures, media, others). Complaints can be received at the community office in Copiapó or via mail, email, phone and social media. Once complaints are received, they are followed up until they are closed. The auditor reviewed the complaints and grievance procedure and register. No concerns related to cyanide management were received during the recertification period.

La Coipa also participates in many public relations and economic development forums and events where stakeholders can have the opportunity to communicate issues of concern regarding cyanide management.



## Standard of Practice 9.2

*Make appropriate operational and environmental information regarding cyanide available to stakeholders.*

The operation is  in full compliance with  
 in substantial compliance with Standard of Practice 9.2  
 not in compliance with

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

La Coipa has developed a presentation and informative posters that is presented to communities and stakeholders. The workshop presentation includes topics like introduction to the Cyanide Code, cyanide characteristics, safety practices, uses of cyanide, transportation practices and the cyanide transportation route.

La Coipa has developed a Cyanide management brochure including key questions and answers about cyanide management. This brochure is distributed to workers, contractors, communities and visitors and is also distributed during public relation or local fairs and at the community office in Copiapó.

The company publishes an annual Corporate Social Responsibility Report. Other information specifically regarding the La Coipa mine operation is also posted on the internet on the Kinross Chile website.

Information is disseminated in verbal form during La Coipa community meetings. The people from the communities located around the mine speak and write in Spanish. La Coipa provides information on cyanide in written format (brochure) and verbal form (i.e. presentations provided to communities). Records and material of the workshops were reviewed. Also, Kinross has a local radio (FM Kinross 88.1 <https://kinrossworld.kinross.com/es/kinross-chile-launches-internal-radio-station-for-employees/>), and retransmits information through local radio (Radio Nostálgica <https://www.nostalgica.cl/>) in the northern mining regions of Chile.

La Coipa is required to report any cyanide exposure and release incidents to the relevant national and local authorities. The information reported to the regulatory agencies will be made available to the public by those agencies. Also, any significant incident would be published in both the main Kinross' website (<https://www.kinross.com/news-and-investors/news-releases/default.aspx>) and in the local Chilean website (<https://www.kinrosschile.cl/sala-de-prensa/sala-de-prensa/default.aspx>), as well as in the annual Corporate Social Responsibility Report. This annual publication is available to the public via Kinross's corporate website. Any publication regarding incidents with sodium cyanide that may be published in any of these digital media will specify the





operation in which they occurred, which may be La Coipa or any other from the Kinross group.

- a) No cyanide exposures have occurred at the La Coipa during this recertification period. As described in the emergency response procedures, La Coipa will report any cyanide exposure resulting in hospitalization or fatality to the relevant national or local authorities.
- b) No off-site cyanide releases have occurred at La Coipa during this recertification period. The mine will report any cyanide releases off the mine requiring response or remediation to the corresponding regulatory agencies, national or local authorities, and communities, as described in the emergency response procedures.
- c) No off-site cyanide releases have occurred at La Coipa that would result in significant adverse environmental effects during this recertification period.
- d) No off-site cyanide releases have occurred at the La Coipa Mine that would require reporting under applicable regulations since the restart of operations.
- e) No significant release occurred during this recertification period that cause applicable limits for cyanide to be exceeded.

