

SUMMARY AUDIT REPORT

for the February 2012
International Cyanide Management Code Recertification Audit



Prepared for:

Compañía Minera Maricunga (CMM)
Maricunga District, Region III, Chile
[a Kinross Gold Corporation Operation]

Submitted to:

International Cyanide Management Institute
1200 "G" Street NW, Suite 800
Washington, D.C. 20005

FINAL REPORT

September 30, 2012



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Name of Mine: Maricunga Mine

Name of Mine Owner: Kinross Gold Corporation

Name of Mine Operator: Compañía Minera Maricunga

Name of Responsible Manager: Cleres Sampiao – General Manager

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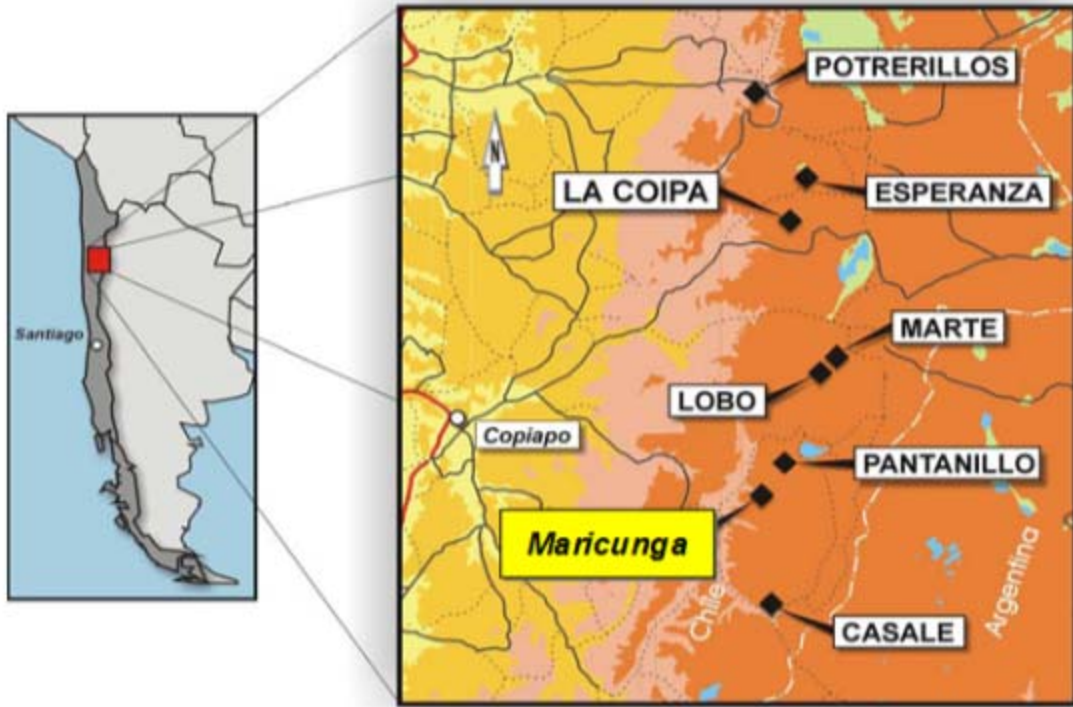
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Location detail and description of operation:

Compañía Minera Maricunga (CMM) operates the Maricunga open-pit, heap leach gold mine, located approximately 120 km due east of the city of Copiapó, in Region III of northern Chile. CMM is a Chilean company, wholly owned by Kinross Gold Corporation since its acquisition of Bema Gold Corporation in 2007. Formerly known as the Refugio mine, CMM's Maricunga operations are located in the Maricunga gold belt at elevations between 4,200 and 4,500 meters above mean sea level. First gold was produced in 1996; the mine operated until 2001, when it was placed in standby mode due to a downturn in gold prices. The mine was reopened in 2004, and mining is now conducted in three open pits. In 2011, CMM began construction of a new sulfidization-acidification-recycle-thickening (SART) facility to increase the efficiency of cyanide utilization; this process change was required due to the increased copper content in the ore mined from a new pit. The SART facility was still under construction at the time of the audit, but is expected to be commissioned in the second quarter of 2012. At the time of the audit, the mine had approximately 485 employees.

The location of the Maricunga mine is shown in the following Figure:



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Auditors' Finding

The operation is: in full compliance
 ■ in substantial compliance ** (see below)
 not in compliance

with the *International Cyanide Management Code*.

** The Corrective Action Plan (CAP) to bring the operations noted to be in substantial compliance into full compliance is attached (Appendix A) with this Summary Audit Report. The CAP must be fully implemented within one year of the date of this audit.


CMM has experienced no significant ICMC compliance issues since the previous audit, with the exception of a force majeure disruption in their certified supplies of cyanide, which required the use of non-certified supply chain links until their regular supply chain could be fully reinstated. This is discussed in detail in Standards of Practice 1 and 2.

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Names and Signatures of Other Auditors

Mark Montoya 

Glenn Mills 

Date(s) of Audit: February 6 – February 10, 2012

I attest that I meet the criteria for knowledge, experience and conflict of interest for Code Verification Audit Team Leader, established by the International Cyanide Management Institute and that all members of the audit team meet the applicable criteria established by the *International Cyanide Management Institute* for Code Verification Auditors. I attest that this Detailed Audit Report accurately describes the findings of the verification audit. I further attest that the verification audit was conducted in a professional manner in accordance with the *International Cyanide Management Code Verification Protocol for Gold Mine Operations* and using standard and accepted practices for health, safety and environmental audits.

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1. PRODUCTION: Encourage responsible cyanide manufacturing by purchasing from manufacturers who operate in a safe and environmentally protective manner.

Standard of Practice

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

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

Discuss the basis for this Finding/Deficiencies Identified:

CMM normally purchases cyanide under a long-term delivery contract with DuPont's Memphis, TN, USA production facility; this is the same basic contract that was in effect in the 2008 audit, and review of the ICMI website indicates that DuPont's production facility has maintained its ICMC certification status in the years since. CMM also established a spot delivery purchase order (PO) with Orica Mining Chemicals & Services – Latin America in October 2010 in order to address potential shortfalls associated with increased cyanide utilization demands. Review of the ICMCI website also indicates that Orica's production facilities are also fully certified to the ICMC. The October 2007 amendment to the DuPont contract and the special conditions (Addendum No. 2) of the Orica PO both require that all cyanide be produced and delivered in accordance with ICMC requirements. Producer responsibilities for ensuring ICMC compliance for the entire supply chain are clearly stated.

In November of 2011, CMM's cyanide usage increased from about 10 metric tons per day to 25-30 metric tons per day, due to the higher copper content in ore from a newly developed pit. In January 2012, CMM predicted a shortfall in cyanide deliveries that were associated with a significant interruption of production at DuPont's Memphis production plant (i.e., a major maintenance shutdown and another shutdown in May 2011 due to severe flooding). Other shipping delays were experienced under the Orica backup supply PO that prevented timely receipt. CMM had also negotiated with a Chilean sister mine [Kinross's Mantos de Oro (MDO) mine] for emergency supplies, but adequate quantities were not available to fully cover CMM's needs without jeopardizing MDO's own operations. CMM therefore also issued an emergency PO with Oxyquim S.A. to address the predicted shortfall. Oxyquim operates a reagent supply brokerage and maintains a warehouse in Antofagasta, but is not certified under the ICMC. The PO

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to Oxyquim was for purchase from supplies from unspecified sources already available from Oxyquim's warehoused stock.


Cyanide is not normally purchased from an independent distributor; however, as previously noted in 2012 CMM did purchase an emergency shipment of 4 intermodal containers of cyanide from Oxyquim's existing warehouse stocks. The distributor did not provide evidence that the cyanide manufacture was certified to the ICMC, but physical inspection of shipping labels on Oxyquim-provided crates in controlled storage at the mine indicates that the cyanide was produced in China from an ICMC signatory, Hebei Chengxin Co., Ltd. However, although Hebei Chengxin Co. Ltd. was a signatory, they were not certified to the ICMC at the time of audit and review of the ICMIC website indicates that certification is still pending as of the submittal date of this report

CMM has issued an internal memo that documents their response to the emergency shortfall, emphasizing that in future the sourcing of primary supplies of cyanide will continue to be preferentially through long-term contracts with suppliers who have fully-certified supply chains. Auxiliary supplies will likewise be preferentially purchased from suppliers with fully certified supply chains. If sufficient supplies are not available from either source, then purchases will be preferentially made from suppliers who can demonstrate that they are using certified producers and as many certified supply chain transportation links as is possible.

In the auditor's judgment, CMM made a good-faith effort to procure cyanide from ICMC certified sources in response to unique conditions (i.e., production interruptions and the effects of severe weather conditions at the DuPont plant) that were beyond their control. They established an alternate fully-certified source of supply through Orica, with appropriate requirements for supply chain certification as special conditions to the PO, and purchased from Oxyquim as a last resort after borrowing as much cyanide as possible from other ICMC-certified Kinross sources without jeopardizing other mine operations. Additional supplies from DuPont were expected to be delivered the week of February 12, 2012. It is understood from discussions with CMM procurement personnel that the production of the Memphis plant has returned to near normal and it is unlikely that the circumstances requiring another emergency procurement from either Orica or Oxyquim will recur. The spike in cyanide demand is also expected to be significantly reduced (from 25-30 metric tons back down to 10-11 metric tons per day) when the new SART plant is commissioned (anticipated for the second quarter of 2012).

For the reasons noted above, and considering the direction provided in ICMI's *Guidance for Recertification Audits* (see <http://www.cyanidecode.org/pdf/GuidanceforRecertificationAudits.pdf>), this Standard of Practice is considered to be fully compliant.

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2. TRANSPORTATION: Protect communities and the environment during cyanide transport.

Standards of Practice

2.1 Establish clear lines of responsibility for safety, security, release prevention, training and emergency response in written agreements with producers, distributors and transporters.

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

Discuss the basis for the Finding/Deficiencies Identified:

Review of Schedule E of the current DuPont contract and Addendum No 1 to the current Orica contract indicates that both suppliers are responsible for cyanide production as well as the entire transportation chain from the production facility to the Maricunga site. DuPont and Orica are both contractually responsible for cyanide safety and spill response actions that may be required over the entire transportation chain [i.e., all items listed in Section 2.1(1)] except for (h)]. The final transporter in both transportation chains is Transportes Veresay, S.A. Transportes Veresay trucks cyanide from port facilities in Antofagasta or Valparaiso in steel intermodal containers, to a dedicated, fully enclosed cyanide warehouse adjacent to the mine's Adsorption/Desorption Recovery (ADR) plant. Offloading takes place within the warehouse; CMM takes formal ownership of the cyanide as individual crates are removed from the intermodal container by forklift.

The emergency PO to Oxyquim did not include any conditions that formally address responsibilities in the manner required by this section of the ICMC. However, given the conditions noted in Standard of Practice 1 above and the restoration of deliveries from CMM's primary supplier, it is unlikely that the operation will be required to purchase emergency supplies from uncertified sources in future. In the auditor's judgment, this Standard of Practice element is therefore considered to be fully compliant with the ICMC, in keeping with ICMI's *Guidance for Recertification Audits*.

2.2 Require that cyanide transporters implement appropriate emergency response plans and capabilities, and employ adequate measures for cyanide management.

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

Discuss the basis for the Finding/Deficiencies Identified:

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The current DuPont contract and the special conditions attached to the Orica backup supply PO establish both suppliers' responsibilities for production and all aspects of transportation of cyanide to the Maricunga mine site using a fully certified supply chain.


The emergency PO to Oxyquim did not include any conditions that formally address responsibilities in the manner required by this section of the ICMC; however CMM did contract separately with Transportes Veresay to deliver cyanide from Oxyquim's warehouse to the project site. As a matter of policy, CMM uses only Transportes Veresay for any cyanide deliveries, due to their experience with the route and past performance, and the currency of their ICMC certification status. Review of samples of bills of lading/custody records for 2009, 2010, 2011, and 2012 confirm that Transportes Veresay is the only road transporter that CMM has used in Chile, regardless of cyanide source (DuPont, Orica, or Oxyquim).

As discussed in the 2009 certification audit report, in 2007 DuPont originally provided due-diligence and ICMC-equivalent non-verification audit reports demonstrating ICMC compliance over its entire supply chain. Review of the ICMC website indicates that in 2010, DuPont re-certified their supply chain through three separate certifications, i.e., their US/Canada Rail & Barge Supply Chain, Global Ocean Supply Chain (which includes both US and Chilean ports), and their Chilean transportation chain using Transportes Veresay.

CMM's backup cyanide supply PO with Orica was established in October of 2011. Review of the ICMC website indicate that Orica certified its Latin America supply chain in April of 2011; this certification addresses transportation of cyanide by ship from Brisbane, Australia to the Port of Callao, Peru, using carriers Maersk and Hamburg SUD. The certification also covers transportation to Orica's production transfer facility in Ventanilla, Peru, with subsequent transportation by road to Chilean Transaltisa S.A. and/or Stiglich Transportes S.A. However, investigation of bills of lading and chain of custody records for Orica shipments indicate that all Orica-produced cyanide used by CMM was received in the Port of Angamos (near Antofagasta, Chile), and shipped to the site using Transportes Veresay. The Port of Angamos was not included under Orica's current certification at the time of the audit, although Orica did provide a consignor's due diligence assessment report for the Port dated January 2011, indicating that Hamburg SUD is a regular user of the Port's facilities; Hamburg SUD was identified as the shipper on all Orica shipping records reviewed in the audit. In summary, although the Puerto Angamaos link was not identified in Orica's certification as of the date of the aide, the ocean link (Hamburg SUD) and Chilean roadway transporter (Transportes Veresay) were separately certified under the ICMC, via Orica's Latin America supply chain certification, and Transportes Veresay via their own independent certification as well as DuPont's Chilean supply chain certification..

Any determination of the adequacy of Orica's Port of Angamos due diligence assessment and their use of Transportes Veresay relative to Orica's current South America supply chain certification is beyond the scope of the CMM re-certification audit,

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and, since it relates specifically to transportation and not mine operations, is not technically within the scope of the audit team's qualifications. However, it is understood that in April 2012, Orica notified ICMI that it was adding Puerto Angamos to its Latin America Supply Chain. Section 9 of the General Guidance section of ICMI's *Auditor Guidance for Use of the Cyanide Transportation Verification Protocol* permitted Orica nine months from the date it first started using the port for delivery of cyanide to ICMC-certified gold mines to submit an addendum to the supply chain certification report that included Puerto Angamos. Review of the ICMI website indicates that ICMI received that addendum within the required time frame and Puerto Angamos is now considered part of Orica's ICMC. See http://www.cyanidecode.org/signatory_consignor_orica.php.

It should be noted that:

- CMM's efforts in creating special conditions for the Orica PO mirror the ICMC requirements in the DuPont contract;
- the Orica supply chain is for backup supplies only, and the Puerto Angamos link is now certified as part of Orica's Latin American supply chain;
- the operational conditions requiring such backup are expected to be ameliorated by the commissioning of the SART plant, and
- CMM has issued an internal memo that documents their response to the emergency shortfall, emphasizing that auxiliary supplies will likewise be preferentially purchased from suppliers with fully certified supply chains. If sufficient supplies are not available from either source, then purchases will be preferentially made from suppliers who can demonstrate that they are using certified producers and as many certified supply chain transportation links as is possible.

For these reasons, in the auditors' judgment this Standard of Practice element is considered to be fully compliant with the ICMC, giving due consideration to the interpretive guidance provided by ICMI's *Guidance for Recertification Audits*

3. HANDLING AND STORAGE: Protect workers and the environment during cyanide handling and storage.

Standards of Practice

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

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

Discuss the basis for this Finding/Deficiencies Identified:

Cyanide is delivered and stored in a dedicated, fully enclosed warehouse that was constructed at the time of the 2008 certification audit. The building was designed by a licensed professional engineering firm; the design was developed from general guidance provided by DuPont. QA/QC inspection reports for the building remain on file. There have been no modifications to the building in the period since it was built. Examination of photographic records indicates that in winter storm conditions, the floor requires periodic sweeping to remove windblown snow that blows in around the sliding door, but the building is otherwise weather tight. The warehouse is adjacent to the Adsorption Desorption, and Recovery (ADR) plant, which is well within the security perimeter of the site. The site remains highly remote; no new communities or settlements have been created within many kilometers of the site, and it should be noted that the man-camp observed in 2008 has been removed to a lower altitude, an approximately 45 minutes' drive from the site.

There has been no change in location of the cyanide mixing and storage tanks since the certification audit; they are still located inside the ADR building, in a bermed, epoxy-coated concrete impoundment fitted with sumps and pumps capable of returning any spillage back to the associated tank.

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
in substantial compliance
not in compliance...with Standard of Practice 3.2.

Discuss the basis for this Finding/Deficiencies Identified:

The bag cutter arrangement on top of the cyanide mixing tank is fitted with a bag washer, but current procedures did not require the triple rinse required by the ICMC and conflicted with observed practice. The observed practice was to rinse the bag and manually and check the internal atmosphere after the rinse to ensure that there were no HCN readings > 4 ppm. The applicable handling procedure required a 4-minute wash, which conflicted with the general procedure for preparation of cyanide solution, which required a 2-minute wash. However, prior to the finalization of this report, CMM revised the affected General or Specific Procedures to reflect a triple rinse as required by the

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ICMC, and retrained affected staff. This was confirmed by review of copies of the modified procedures and associated training records.

Although bag rinsing practices deviated from ICMC norms prior to these corrections, in the auditor's judgment CMM had made a good-faith effort to ensure that no cyanide residues remained in the interior of the supersacks, and no substantial environmental or occupational health and safety (OHS) risks are believed to have been incurred.

Procedures require that cyanide packaging materials accumulated in the warehouse and periodically routed to a controlled burn area; packaging waste is not permitted to be used for other purposes. Empty cyanide crates and bags are periodically disposed of in a burn pit in an open, windswept location near laydown yard areas upgradient of the heap leach and mining operations; however, physical examination of the burn pit indicated a number of inadequate control measures:


- the burn pit was not restricted to the burning of cyanide packaging waste, and was nearly full of residues;
- fencing had ground-level gaps and a non-functional, unlocked gate in the open position;
- no signage was provided restricting entry to authorized personnel, or warning of potential cyanide contamination;
- several examples of incompletely burned bags were noted, some near significant gaps in the fencing

Photographic evidence was provided to the audit team prior to the submittal of this report that indicates that a new burn pit has been constructed, with new fencing, security gate, locking mechanism, and proper signage. Evidence of appropriate procedural control s over burn pit operations and associated training records for affected staff were also provided prior to the submittal of this report.

CMM's General Procedure for preparation of cyanide solution has been in effect since 2007, and provides detailed, sequential directions for cyanide mixing activities; the general procedure is supported by "Specific Procedures" that summarize actions based on an assessment of the occupational health and safety risk associated with the activity. Cyanide containers stacks are limited to three high in the warehouse, and directions are provided for the rapid cleanup of spills. However, several weaknesses in practice were observed in the implementation of this procedure in an actual mixing event that will require corrective action. In addition to the bag rinsing observations made above, these included:

- the splash curtain on the mixing hopper was torn;

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- the operator was observed to manually shake the empty bag over the hopper, instead of using a remote handling device or the jog function on the overhead crane;
- the dimensions of the overhead crane lifting bridle were not large enough to restrict the collapse of the bag during emptying, which impaired the efficiency of the rinsing process;
- the area between the warehouse and mixing bay in the ADR was not cordoned off to prevent entry by other CMM or contractor personnel during the mix event; and
- no procedural direction had been prepared to address the opening of the warehouse and movement of crates of cyanide to the mixing area via forklift;

In addition, there were no lockout/tag-out protections on the high-strength solution drain valves on the cyanide mixing and storage tanks; excessive cyanide salt encrustations were also observed on the rim of the storage tank cover plate. However, prior to the finalization of this report, CMM repaired the splash curtain, adjusted the dimensions of the hoisting bridle, installed appropriate tag-out protection, and performed maintenance actions in areas with excessive cyanide salt encrustations. They also revised the affected General or Specific Procedures, and retrained affected staff. This was verified by review of photographs of repairs, copies of the modified General and Special procedures, and review of associated training records.

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

Standards 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
 ■ in substantial compliance
 not in compliance...with Standard of Practice 4.1.

Discuss the basis for the Finding/Deficiencies Identified:

CMM has developed written management and operating plans and procedures for the Maricunga active cyanide facilities, which include a solid cyanide storage warehouse, Heap Leach Facility (HLF), Adsorption, Desorption and Recovery (ADR) Plant, Process Solution Ponds [Pregnant Leach Solution (PLS) Pond and Barren Solution (Recirculation) Pond], Emergency Pond, and related piping, tanks, secondary

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containment structures and channels, and stormwater diversions. The operating plans and procedures developed and implemented by CMM cover the safe operation of all cyanide management facilities, and are kept at the ADR Plant and on the Kinross intranet portal. The procedure documents are organized as “*General Procedures,*” “*Specific Procedures,*” and “*Emergency Plans.*”

The operation has procedures that identify the assumptions and parameters on which the facility design was based and any applicable regulatory requirements as necessary to prevent or control cyanide releases and exposures consistent with applicable requirements. General Procedure GCNPR405, “Identification of Assumptions and Design Parameters for Cyanide Facilities” (*Identificación de Supuestos y Parámetros de Diseño de Instalaciones de Cianuro*), establishes the criteria for identifying the parameters and assumptions on which the designs for the cyanide facilities were based. General Procedure GCNPR402, “Leaching and Cyanide Solution Ponds” (*Lixiviación y Piscinas de Solución Cianurada*), establishes the norms and procedures for operating the leach pads and solution ponds with the purpose of providing all the information relating to operational risks. The procedure is also applicable to the installations where cyanide solutions flow between the pads and the ponds (e.g., pipelines within lined channels, pumping facilities), fundamentally, where discharges can exist or leaks of cyanide could occur. General Procedure GCNPR406, “Contingency Management of Cyanide” (*Contingencia en el Manejo del Cianuro*), provides contingency procedures in situations in which an alteration in the water equilibrium or the installations is produced, in cases where differences with regard to the design parameters are observed, and during deviations of the environmental legal compliance or with the operating procedures when necessary during temporary closure.

CMM has procedures that describe the standard practices necessary for the safe and environmentally sound operation of the facility including the specific measures needed for compliance with the Code. Procedure GCNPE491, “Operational and Emergency Management of Ponds” (*Manejo Operacional y de Emergencia en Piscinas*), provides the methods for managing the process solutions in the heap leach pad and solution ponds to retain the design storage capacities. The pond system is designed to contain the sum of the maximum operating volumes (including peak fluctuations), draindown from the heap (24 hours), and the 100-year, 24-hour storm event. CMM continuously monitors the PLS and Recirculation pond levels from the ADR Plant control room via the current programmable logic controller (PLC) system. Inspections of other facility components are recorded in logbooks, checklists, inspection, and process reports kept at the ADR Plant. According to Specific Procedure GCNPE444, “System Control of Parameters and Variables” (*Control del Sistema: Parámetros y Variables*), CMM performs daily inspections of the pumping systems at the solution ponds and the booster station.

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CMM identifies when changes in the operation's processes or operating practices may increase the potential for the release of cyanide and incorporates the necessary release prevention measures. Change management is addressed through both corporate and mine-level procedures. Major process and facility changes requiring significant expenditures are documented in accordance with Kinross Corporate Authorization for Expenditure (AFE) processes under Element 6 ("Project Planning, Design, and Construction") of the Kinross Corporate Responsibility Management System (CRMS). At the operational level, General Procedure GCNPR602, "Review of Cyanide Processes, Operational Changes, and Modifications" (*Revisión de Procesos del Cianuro, Cambios Operacionales y Modificaciones*), addresses changes in cyanide-related operating practices for commissioned elements of cyanide management infrastructure. Checklists and associated AFE documentation were reviewed by the auditors that confirm early engagement by Environment, Health and Safety (EHS) management in setting basic requirements for the: design and construction of the new SART Plant; installation of a new elution column in the ADR Plant; Phase V and VI leach pad expansions; and installation of a new pump station required to boost leach solutions from the process ponds to the active leach areas on the leach pad.

The Maricunga operation implements cyanide management contingency procedures for situations when there is an upset in the facility's water balance, when inspections and monitoring identify a deviation from design or standard operating procedures, and/or when a temporary closure or cessation of operations may be necessary. General Procedure GCNPR406, "Contingency Management of Cyanide" (*Contingencia en el Manejo del Cianuro*), provides the cyanide management contingency procedures for upset conditions. This procedure describes measures for protecting life and the property if a potential contingency develops in the management of the cyanide, such as situations in which an alteration in the water balance of the installations is produced, differences with regard to the design are observed, deviations of environmental legal compliance or with the operating procedures occur, and when necessary, temporary cessation or closure of operations is required. It also references the General Response Plan for Emergencies with Cyanide [*Plan General de Respuestas a Emergencias con Cianuro* (GCNPL701)]. The identification of an unexpected leak or spill will be investigated, monitored and evaluated to determine the appropriate control.

CMM inspects its cyanide facilities on an established frequency sufficient to assure and document that they are functioning within design parameters (i.e., daily, semiweekly, weekly and monthly). These inspections provide information on the performance of the ADR Plant facilities and the leach pad and pond systems. CMM also conducts Preventative Maintenance (PM) inspections to assess the ongoing physical integrity of the cyanide facilities. The routine PM inspections performed by the CMM maintenance department, supplement the operational inspections performed by CMM process personnel. In combination, these operational and maintenance inspections include observations of tanks, pipes, leach pads, ponds, secondary containment systems and

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related pumping facilities and equipment. Operational inspections are recorded in daily logbooks, checklists and reports kept at the ADR Plant. Electronic records of maintenance inspections are documented via work orders, which are maintained in the software system utilized by the maintenance department. This recertification audit included review of inspection logs, checklists and reports, as well as visual inspection of the facilities. Based on this review, it appears that the inspections and related maintenance activities are generally accomplishing their objective with some exceptions. Please see CAR **CMM-ICMC-CAR-01**.

Although not comprehensive at the time of this onsite audit, CMM has implemented a program for inspecting and maintaining its cyanide facilities on a routine basis and has identified those facilities currently requiring repair as well as deficiencies in the program that must be addressed under this CAR. Accordingly, subsequent to the onsite audit and prior to completion of this report, CMM provided photographic evidence demonstrating repair of many deficiencies identified during the field audit inspections. CMM's existing operating and monitoring procedures and resulting water quality history, demonstrate that the Maricunga cyanide facilities protect against cyanide exposures and releases to the environment. Therefore, based on these statements, no immediate or substantial risk to health, safety or the environment is deemed to exist during implementation of this CAR.

As mentioned above, CMM documents its inspections of cyanide facilities via logbooks, checklists, inspection reports, and electronic maintenance records. The inspection records are signed by the inspector and include the date of the inspection and any observed deficiencies. The inspection reports include identified risks, corrective actions and status (i.e., "immediate," "in execution," or "pending"), personnel responsible for executing the corrective action, date of execution, execution time, and in some cases, photographs of the identified issue. Generally, during this onsite recertification audit, CMM provided completed copies of inspection checklists over the period August 2009 through January 2012. Discontinuous daily records were provided for the year 2008 and data provided for 2009 included intermittent daily data for approximately one week each month; with no data provided for certain facilities during 2009 for the months of January, February, March and November (please refer to CAR **CMM-ICMC-CAR-02**). CMM provided monthly inspection data (i.e., one inspection checklist for each month) for years 2010 through 2012. Since CMM has implemented a program for inspecting and maintaining its cyanide facilities on a routine basis the corrective action required under this CAR serves to improve CMM's procedures for documenting these inspections. Therefore, no immediate or substantial risk to health, safety or the environment is deemed to exist during implementation of this CAR.

The PM program implemented by CMM functions to ensure that equipment and devices function as necessary for the safe cyanide management. Currently, CMM utilizes JD Edwards® software, which contains a listing of all equipment (coded) and accompanying

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maintenance plans. Maintenance activities are tracked by work orders and CMM programs automatic work orders on a routine schedule. During this onsite audit, CMM maintenance personnel provided a listing of cyanide facilities included on the PM schedule. Primary facilities include: pumps, process tanks and carbon-in-leach (CIL) columns, pipes, valves, agitators, gas extractors, emergency showers, carbon regeneration furnace, laboratory equipment, acid wash tower and elution columns. Additionally, the CMM electrical maintenance department performs routine maintenance on the personal and stationary hydrogen cyanide (HCN) gas sensors.

A generating station in the Copiapó area supplies approximately 16 Megawatts (MW) of power to the Maricunga site via an overhead transmission line. The power requirement for the entire Maricunga operation is approximately 12 MW. Five onsite emergency backup generators capable of supplying 1.2 MW each (or 6 MW total) are located at the generator house (power house) along with one auxiliary generator. If the primary power supply fails, the emergency generators are capable of powering all critical process equipment. CMM maintains two permanent operators in the power house. To ensure proper operation, the emergency generators are maintained on weekly, monthly, six-month and annual schedules.

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
 in substantial compliance
 not in compliance...with Standard of Practice 4.2.

Discuss the basis for this Finding/Deficiencies Identified:

This Standard of Practice is not applicable, as the Maricunga operation does not use milling technology.

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

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

Discuss the basis for the Finding/Deficiencies Identified:

CMM has developed a comprehensive water balance model, using Microsoft® Excel® software, which tracks water flow throughout the engineered water management structures, including the leach pad and pond system. Maintaining normal operating

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levels in the process solution ponds is the model's primary focus. The CMM metallurgy department prepares a Water Balance Report on a monthly basis, presenting a comparison between the planned (predicted) results and the actual (real time) results for that month. The monthly reports are also reviewed by the environmental department to assess pond levels.


The model is designed to analyze the retention capacity requirements for the solution pond system. Multiple scenarios with varying conditions can also be evaluated. The Maricunga model incorporates the following inflows and outflows: precipitation; leach pad irrigation areas and rates; freshwater makeup; evaporation; ore moisture content; and water retained in the drained pad material. Additionally, the model incorporates the ore production schedule. The process circuit at Maricunga functions as a closed circuit with zero discharge.

The water balance model also evaluates the effects of potential upset events, such as the loss of the main pump, loss of a primary header, loss of energy, thawing of all accumulated snow, and the 100-year, 24-hour storm event. Furthermore, storm events of any magnitude can be input to the model. It considers all appropriate factors in a reasonable manner.

General Procedure GCNPR489, "Water Balance" (*Balance de Agua*), and procedure GCNPE491, "Operational and Emergency Management of Ponds" (*Manejo Operacional y de Emergencia en Piscinas*), provide the methods for managing the process solutions in the heap leach pad and solution ponds to retain the design storage capacities. CMM implemented automatic, online sensors at both process ponds, which continuously measure the pond solution levels. CMM continuously monitors the PLS and Recirculation pond levels from the ADR Plant control room via the current PLC system. CMM uses daily reports to monitor its water management facilities and manage the solutions to prevent overtopping of ponds and impoundments and unplanned discharge of cyanide solutions to the environment. The pond levels are input into the water balance model on a monthly basis and are used to calculate predicted pond capacities. A Water Balance Report is prepared on a monthly basis, presenting a comparison between the planned (predicted) results and the actual (real time) results for that month.

The active pond system at Maricunga consists of the Pregnant Leach Solution (PLS) Pond, Recirculation (Barren Solution) Pond, and one Emergency Pond. Procedure GCNPE491, "Operational and Emergency Management of Ponds" (*Manejo Operacional y de Emergencia en Piscinas*), provides the methods for managing the process solutions in the heap leach pad and solution ponds to retain the design storage capacities. The pond system is designed to contain the sum of the maximum operating volumes (including peak fluctuations), draindown from the heap (24 hours), and the 100-year, 24-hour storm event (94 mm).

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CMM collects actual onsite precipitation (snowfall) data and enters it into the water balance model on a monthly basis. This onsite data is used to evaluate and calibrate the model. The CMM environmental department is in charge of downloading and converting the meteorological data, and the metallurgy department is in charge of managing/calibrating the water balance model. Procedure GCNPE489, "Water Balance" (*Balance de Agua*), includes requirements for annual and monthly review as well as revision when there is a change in the leaching process.

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

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


Discuss the basis for the Finding/Deficiencies Identified:

The PLS and Recirculation ponds are the only facilities at the Maricunga site that contain open process solutions. Solutions from the heap and ADR Plant are conveyed to the ponds via pipelines situated within lined secondary containment channels, and drip emitters are typically buried in the heap to prevent freezing and surface ponding. The WAD cyanide concentration of solution in both the PLS Pond and Recirculation Pond exceeds 50 milligrams per liter (mg/l) on a consistent basis.

A six-foot, wire-mesh fence is installed around the PLS and Recirculation ponds to restrict access by terrestrial wildlife. The fence and access gates were in good repair at the time of this onsite recertification audit. There is no livestock at the Maricunga site. The avian deterrent system implemented at the process ponds includes the following components: 1) Wireline Grid System – a system of parallel lines (heavy, high-visibility monofilament fishing line) strung over the ponds, spaced at intervals of approximately three meters to interfere with aquatic birds attempting to land on the ponds, creating a psychological barrier for deterring aquatic birds from entering the ponds; 2) Acoustic Deterrents – bioacoustics such as recorded distress and alarm calls of species to be dispersed; and 3) Pyrotechnics – devices that can be fired from 15-mm "starter" pistols, standard 12-gauge shotguns, or modified flare pistols, which produce a variety of loud sounds and explosions, bright flashes of light, and/or trailing smoke.

To supplement the above listed deterrent measures, CMM has developed a monitoring program to assess the success and progress of the management program. Specific Procedure GCNPE481, "Management for Exclusion of Birds" (*Manejo Para Exlusión de Aves*), details deterrent system management and monitoring requirements.

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CMM applies leach solutions to the heap using drip emitters, which are typically buried 80 centimeters deep to prevent freezing and ponding. During warm weather months, CMM applies leach solutions to the sideslopes of the heap using wobbler-type sprinkler heads. Nonetheless, due to severe winter conditions experienced in 2011, buried drip emitter lines in active areas of the heap froze forcing CMM to replace the irrigation lines with new lines located on the surface of the heap. At the time of this recertification audit (Summer 2012), CMM was continuing to use surface irrigation on certain cells of the heap, in addition to using sprinklers on the sideslopes. As a result, these active areas of the heap were experiencing significant ponding in isolated areas. Please refer to CAR **CMM-ICMC-CAR-03**. Following the onsite audit, CMM provided photographic evidence demonstrating that ponding on the surface of the heap has been eliminated. Additionally, CMM implemented a new procedure (GCNPE493, Control of Ponding on the Heap Leach Pads). No overspray of solution off the lined area was occurring.

CMM took immediate action to eliminate the ponding on the heap and to implement Procedure GCNPE493. Additionally, CMM heap leach operators indicated that they have not observed any avian or terrestrial wildlife at the heap and no wildlife mortalities resulted from the solution that was ponding. Therefore, no immediate or substantial risk to health, safety or the environment is deemed to exist during final implementation of this CAR.

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
 in substantial compliance
 not in compliance...with Standard of Practice 4.5.

Discuss the basis for the Finding/Deficiencies Identified:

The process circuit at Maricunga functions as a closed circuit with zero discharge and CMM monitors surface water quality to ensure that indirect discharges to surface water are not occurring. The surface water monitoring program includes regular sampling at five downgradient locations. The applicable regulatory surface water standard for Maricunga is 0.2 mg/l Total Cyanide for discharge to the "Bodies of River Water" classification. The use of surface water downgradient of the facility is agriculture.

CMM provided Certificates of Analysis from the independent laboratory for all surface water sampling events over the period January 2009 through January 2012. Review of the water quality data demonstrates that Total cyanide concentrations were below the 0.01 mg/l detection limit used in the analysis for all sampling episodes except one. The Total cyanide concentration for monitoring point P-6, sampled on December 28, 2011, was 0.02 mg/l.

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Maricunga has not had any indirect discharges of cyanide solutions to surface waters. No impact to beneficial uses has occurred according to the water quality data presented during this recertification audit.

4.6 Implement measures designed to manage seepage from cyanide facilities to protect the beneficial uses of ground water.

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


Discuss the basis for the Finding/Deficiencies Identified:

Maricunga has implemented solution management and seepage control systems to protect groundwater below and downgradient of the operation. The cyanide facilities consist of a cyanide storage area, HLF, ADR Plant, process solution ponds, an emergency pond, and related piping, tanks, solution conveyance channels and stormwater diversion structures. The heap leach and pond facilities are constructed with synthetic liners to minimize seepage and protect beneficial uses, and the solution ponds employ leak detection systems. Piping related to the heap leach facility is contained within lined channels. The channels provide secondary containment to the piping and do not employ leak detection. The ADR plant is constructed with a concrete floor and stem walls, which provide adequate spill containment for the tanks located within the plant. Additionally CMM monitors groundwater on a regular basis, which is more than 150 meters deep in the immediate vicinity of the cyanide facilities (beneath the leach pad and process areas).

For Maricunga, the numerical standard applied for groundwater protection is 0.20 mg/l Total Cyanide. The use of groundwater below or downgradient of the facility is agriculture. CMM provided Certificates of Analysis from the laboratory for all groundwater sampling events over the period January 2009 through January 2012. Review of the water quality data demonstrates that the operation has not exceeded the above referenced numerical standard for cyanide at the groundwater compliance points. All results reported for Total cyanide during this period were below the detection limit of 0.01 mg/l.

Maricunga operation is an open-pit, heap leach operation, which does not use milling technology for processing ore, and has not had any indirect discharges (such as seepage) of cyanide solutions to groundwater. No impact to beneficial uses has occurred according to the water quality data presented during this recertification audit.

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

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


Discuss the basis for the Finding/Deficiencies Identified:

CMM has implemented spill prevention and containment measures for the ADR Plant and associated mixing, storage and process tanks, and all secondary containments for these cyanide process tanks are sized to hold a volume greater than that of the largest tank within the containment and any piping draining back to the tank, and with additional capacity for the design storm event. The ADR Plant containment incorporates concrete floors, walls, curbs, and automated sump pumps with level controls within the individual concrete containments to transfer collected solutions back into the process circuit (process solution ponds). A separate building contains the Train C, CIL circuit. This facility also incorporates concrete floors, wall, curbs and automated sump pumps with level controls to transfer collected solutions back into the process circuit. The process tanks are placed on either solid concrete plinths or concrete ring foundations underlain by the reinforced concrete floor, or are supported above the floor by steel structure. The Maricunga operation receives sodium cyanide (in solid briquette form) in one-ton nylon supersacks overpacked in polyethylene bags and cardboard-lined plywood pallet boxes, and CMM stores these cyanide crates in a dedicated steel building with a curbed concrete floor.

The Cyanide Storage Tank is located outside the ADR Plant building, between the building and the process ponds. The tank is situated within its own concrete containment, which is lined with geomembrane for additional control. During field observations, it was difficult to determine the tank foundation design, because of the geomembrane liner covering the base of the tank. Please see CAR **CMM-ICMC-CAR-04**. This containment shares a common wall with an unused, dilapidated concrete containment that, at the time of this onsite audit, was partially filled with broken concrete, miscellaneous debris and water (snowmelt). The storage tank containment was also linked to this unused, and unmaintained, containment via a pipe drain through the common wall. Therefore, following the onsite audit, CMM took immediate action to seal the drain pipe connecting the two containments and to backfill the unused containment with soil material. CMM personnel indicated that a sample was taken prior to the audit to confirm that the water in the unused containment did not contain cyanide (please see CAR **CMM-ICMC-CAR-04**).

CMM has implemented a program for inspecting and maintaining its cyanide facilities on a routine basis, which includes monthly visual inspections of tanks for integrity of welds,

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and for signs of corrosion and leakage and ultrasonic thickness testing on process tanks every two years and based on an identified need. During this audit, CMM provided results of ultrasonic thickness testing performed on the Cyanide Storage Tank in 2010 and the test certificate indicate that the actual thickness measurements recorded were above the minimum allowable thickness. The visual inspections conducted as part of this thickness testing certify that the carbon steel plates have no dents, pitting or deformation and that the welds are in good condition. The next scheduled thickness testing is scheduled for July/August 2012. CMM's existing operating and monitoring procedures and resulting water quality history, demonstrate that the Maricunga cyanide facilities protect against cyanide exposures and releases to the environment. Therefore, based on these statements, no immediate or substantial risk to health, safety or the environment is deemed to exist during implementation of this CAR.

Maricunga has automated pumps within collection sumps in the containment areas to automatically remove cyanide solution and return it to the process circuits. Solution collected in the sumps is pumped to the pond system. Additionally, the response plan GCNPL756, "Spill Control for Pipe and Valve Ruptures" (*Control Derrame por Rotura de Tuberías, Válvulas*), provides contingency measures for neutralization and disposal of solutions collected in secondary containments.

Maricunga has constructed pipelines with spill prevention and containment measures to collect leaks and prevent releases. Pipelines not within the lined area of the leach pad or the ADR Plant containments are located within geomembrane-lined containment channels. Steel channel troughs contain the overhead pipelines transferring cyanide solution between the ADR Plant building and the Train C circuit building. Maricunga does not have any perennial or ephemeral surface water bodies in the immediate vicinity of the process facilities that require special protection needs for pipelines (in addition to the secondary containment measures already provided). See CAR **CMM-ICMC-CAR-04** regarding design confirmation for the secondary containment provided for the Cyanide Storage Tank.

Field observations conducted during this recertification audit identified three buried process pipelines at two locations near the ADR Plant. Design or as-built drawings of these pipelines were not available for review during the onsite audit. Please see CAR **CMM-ICMC-CAR-05**. Following the onsite audit, CMM provided information characterizing these buried pipelines (i.e., pipe material, buried depth, and cyanide concentrations of the process solutions conveyed). Additionally, CMM provided a work plan for installing flow meters on these pipelines to measure flow differential and detect leakage. CMM is planning to supplement this flow differential system with an electromagnetic system, which would detect slow leaks (system specifications were provided). CMM's existing operating and monitoring procedures and resulting water quality history, demonstrate that the Maricunga cyanide facilities protect against cyanide exposures and releases to the environment. Therefore, based on these statements, no

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immediate or substantial risk to health, safety or the environment is deemed to exist during implementation of this CAR.

Several smaller-diameter high-density polyethylene (HDPE) pipelines, situated directly on top of the ground, extend between the Cyanide Storage Tank and the process ponds, which are underlain by geomembrane liner. Additionally, a large diameter steel pipeline is supported above the ground between the process plant and ponds. This pipeline is not located within lined secondary containment channels; however, it is highly visible and located adjacent to the lined solution ponds.

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
 in substantial compliance
 not in compliance...with Standard of Practice 4.8.

Describe the basis for the Finding/Deficiencies Identified:


CMM has implemented quality control and quality assurance (QA/QC) programs during construction of all new cyanide facilities and modifications to existing facilities, including cyanide unloading, storage, mixing facilities and other cyanide facilities. New and/or modified, active cyanide facilities constructed subsequent to the 2008 verification audit include the Phase V leach pad expansion, installation of a new elution column in the ADR Plant, and construction of a new pumping station required to boost process solutions to the distant reaches of the leach pad. During this recertification audit, CMM provided QA/QC documentation for all these facilities. The documentation addresses appropriate construction components and was prepared by appropriately qualified personnel. CMM has retained all QA/QC documentation identified for active cyanide facilities during the 2008 verification audit and QA/QC documentation regarding the new and modified active cyanide facilities, constructed subsequent to the 2008 verification audit, on site.

4.9 Implement monitoring programs to evaluate the effects of cyanide use on wildlife, surface and ground water quality.

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

Describe the basis for the Finding/Deficiencies Identified:

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CMM has prepared and implemented written standard procedures for monitoring activities to evaluate the effects of cyanide use on wildlife, surface water and groundwater quality. The sampling and analytical protocols were developed by appropriately qualified personnel. CMM conducts monitoring at frequencies adequate to characterize the surface water and groundwater quality and wildlife mortalities.


“Analysis Procedure for Taking Samples of Water” (*Analisis Del Procedimiento De Toma De Muestra De Aguas*) specifies the sampling and analyses procedures for surface water and groundwater, including sample preservation, transport, contamination and quality control procedures. General Procedure GCNPR407, “Monitoring Activities Related to Cyanide” (*Monitoreo de las Actividades Relativas al Cianuro*), specifies locations of sampling sites and schedule for sample events. The cyanide species to be analyzed are provided in the Environmental Impact Study prepared for the project. Electronic sampling forms for ground and surface water sampling record appropriate field parameters.

During this onsite recertification audit, CMM indicated that it had not implemented a chain of custody procedure for transporting samples. CMM had implemented a procedure for securing the coolers used to transport the samples to the laboratory; however, chain of custody registers had not been used over the three-year period between audits. Please see CAR **CMM-ICMC-CAR-06**. During the audit, CMM updated its sampling protocol to include chain of custody procedures and documentation, and provided a copy of this updated procedure [Analysis Procedure for Taking Samples of Water (SMAPR001)] for review. Following the onsite audit, CMM provided two completed chain of custody registers for water samples along with training records for the new chain of custody procedure included in SMAPR001. The two registers provided are representative, although not inclusive, of a complete water sampling episode (i.e., all ground and surface water monitoring points where cyanide is monitored). Therefore, no immediate or substantial risk to health, safety or the environment is deemed to exist during implementation of this CAR.

Maricunga is a zero discharge facility and does not discharge process water to the receiving environment. CMM routinely monitors surface water and groundwater quality downgradient of the site to ensure that indirect discharges are not occurring.

The surface water monitoring program includes regular downgradient sampling of three natural springs and surface flow at two locations within the Estero de la Laguna stream. The groundwater monitoring program includes regular sampling of two wells downgradient of the mine site in addition to intermittent sampling at a non-regulatory, downgradient well for internal control. General Procedure GCNPR407, “Monitoring Activities Related to Cyanide” (*Monitoreo de las Actividades Relativas al Cianuro*), provides the locations of the monitoring points and the monitoring schedule.

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Specific Procedure GCNPE480, "Information and Investigation of Wildlife Mortality" (*Información e Investigación ante Muerte de Vida Silvestre*), describes the procedure for monitoring and recording all wildlife mortality occurring on site. Wildlife monitoring records for the years 2009 through 2012 were reviewed during this onsite recertification audit. The records were complete, and demonstrated routine monitoring with increased monitoring frequency during bird migration seasons. On September 27, 2009, a species of duck (a Yellow-Billed Pintail) was found dead in the Recirculation Pond. CMM filed a report describing the incident (*Registro de Inspecciones y Reporte de Incidentes con Vida Silvestre*). According to the report, the acoustical deterrent system was operational; however, more than half of the deterrent lines across the pond were loose or missing and the duck became entangled in the down lines. CMM classified the death as a cyanide-related mortality.

As a result of the incident, CMM agreed to update its wildlife monitoring procedure and inspection checklist to include verification that the bird deterrent systems at the ponds are properly installed and operational. Please refer to CAR **CMM-ICMC-CAR-07**. At the time of this onsite audit, the deterrent systems at the ponds were properly installed and operational. Therefore, no immediate or substantial risk to health, safety or the environment is deemed to exist during implementation of this CAR.

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

Standards of Practice


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

The operation is: ■ in full compliance
 in substantial compliance
 not in compliance...with Standard of 5.1.

Describe the basis for the Finding/Deficiencies Identified:

At the time of the certification audit, CMM operated operating under both a "physical" decommissioning plan and "chemical" decommissioning plan, which collectively presented general or conceptual procedures to be followed in closure. A combined decommissioning plan that addresses all aspects of closure was completed in early 2009. This plan ("Actualización Plan de Cierre y Abandono de Faenas Mina Refugio") is updated on an annual basis (last update: December 2010) in order to provide updated closure cost information to support Kinross's Asset Retirement Obligation (ARO)

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planning and reporting process. A formal resubmittal to the Chilean government based on the latest version of this plan is made every five years.

The current decommissioning plan demonstrates the general order in which planned actions will be conducted, in much the same manner as was presented by the “physical” and “chemical” decommissioning plans reviewed in the 2008 certification audit. Discussions with CMM staff also indicate that regulations governing mandatory updates to decommissioning plans have not changed substantially since the certification audit; plans must be updated to accommodate major changes in mine operations (e.g., construction of the SART plant, expansion to the Phase VI leach pads) and at least once every five years, whichever occurs first. The overall schedule and general procedural considerations for major closure actions are summarized in the decommissioning plan; detailed procedures based on these general requirements will be developed just prior to actual closure.

5.2 Establish an assurance mechanism capable of fully funding cyanide-related decommissioning activities.

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

Describe the basis for this Finding/Deficiencies Identified:

The Kinross ARO process described in the initial certification audit has not changed in over the last three years; ARO estimates are based on third-party closure costs and the technical contents of the annually updated closure plan, which specifically includes all cyanide management facilities. The ARO is updated on at least an annual basis, or more often if major facility or operational changes have occurred.

As was the case in the certification audit, Chilean regulations do not currently require a financial guarantee to address the cost of decommissioning and closure of cyanide facilities. Update policies are identical to those examined in the certification audit; Kinross policy requires the ARO to be reviewed and, if necessary, updated on at least an annual basis, or when significant process modifications (i.e., SART plant, Phase VI expansion) or operational changes are made that could affect decommissioning costs

Kinross policy in this regard is identical to that which was in effect in the 2008 audit. A corporate “Internal Code for Self-Insurance of Decommissioning and Closure Liabilities” has been established specifically to address the self-insurance/self-guarantee and financial strength provisions of the ICMC for Kinross properties in national jurisdictions that have no specific financial assurance requirements. The Kinross corporate code presents the mathematical assumptions used to calculate financial reserve

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requirements. Kinross's internal code requires that CMM to demonstrate that they have sufficient assets to address all aspects of decommissioning, including cyanide facility decommissioning. CMM is required to have reasonable ratios of assets to liabilities, and net working capital significantly greater than the sum of all cyanide-related decommissioning activities. This value is defined in the ARO, which in turn is periodically updated and independently audited. CMM is also required to have a high level of tangible net worth, and assets greater than the sum of all cyanide-related decommissioning activities. The Kinross internal code also requires an annual audit of this financial assurance figure by an independent financial auditor (KPMG).

At the time of the audit, KPMG's review of the 2010 and 2011 cost figures was still in progress; however, a copy of KPMG's final report for 2010 (indicating signature acceptance of CMM's financial assurance estimate from 2010) was provided for the auditor's verification that the review process had been properly completed prior to submittal fo this report. Review of cost data for the reviews in process indicates financial resources well in excess of the estimates of closure activities associated with cyanide management facilities.

6. WORKER SAFETY Protect workers' health and safety from exposure to cyanide.

Standards 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
 in substantial compliance
 not in compliance...with Standard of Practice 6.1.

Describe the basis for the Finding/Deficiencies Identified:

CMM has developed specific documented procedures for all operating tasks associated with the storage and handling of cyanide. In addition there are general operating procedures that also apply to cyanide operations. These procedures are located on the intranet with the original approved and signed documents kept in the Cyanide Code Office. Operating procedures are available that address cyanide delivery and unloading, cyanide mixing, equipment decontamination prior to maintenance, plant operations, and confined space entry. These procedures describe risks associated with specific work tasks and address precautions and safety equipment, including personal protective equipment, and pre-work checks required to safely complete the tasks. Procedures have been maintained as controlled documents over the past 3 years as is evidenced by the tracked revision updates recorded on procedures together with the date and approved sign-off by the area superintendent for each revision.

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As noted under Section 4.1, change management is addressed through both corporate and mine-level procedures. Both environmental and health and safety inputs are required as an integral part of management of change to ensure that ICMC-specific design issues are addressed early in the design engineering effort, as well as in commissioning planning and development of operations and maintenance documentation. Management of Change checklists and associated Application for Financial Expenditure (AFE) documentation were reviewed by the auditors that confirm early engagement by EHS management in setting basic requirements for the major facility changes undertaken in the years since the 2008 certification audit.

At the operational level changes are typically communicated through daily meetings (prior to each shift), and may be the subject of “*Analisis de Riesgo Operacional*” (ARO) process if the changes are implemented within the context of specific tasks. The ARO process is also the primary method by which worker input is solicited in the context of reviewing the health and safety and environmental risks associated with a task prior to task execution, and for developing a task specific plan for minimizing those risks. This is consistent with the observations made in the 2008 certification audit, and review of records indicate that the ARO process has been consistently used across multiple departments for the ensuing three years.

The suggestion-box program described in *Difusion de Programa de Sugerencias de Operacion, Salud, Seguridad y Medioambiente* (procedure GGIN002) is still under development, but when implemented should provide another viable avenue for the consideration of worker input.


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
 ■ in substantial compliance
 not in compliance...with Standard of Practice 6.2.

Describe the basis for the Finding/Deficiencias Identified:

CMM has a written procedure to maintain a minimum pH in high concentration cyanide of 11.5 to 12.0 and a minimum pH in dilute solutions of cyanide to 10.5 to 11.0 to minimize worker exposure to cyanide. However, review of process records for the past three years showed that the in dilute solutions (recirculation, barren and ADR plant) values were generally below the minimum required by the procedure. This non-conformance was more prevalent in 2011 where average pH readings were 10.08, 9.36 and 9.39 respectively, for recirculation, barren and ADR plant solutions. CMM indicated

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that the pH was lower in the return solutions as a result of lime consumption during the leaching process and that the lower pH was not a concern because the return lines from the leach pad to the ADR plant were in the open. Also as the pregnant solution had low concentration cyanide and was in chemical equilibrium, HCN generation would not be an issue in the ADR plant. Subsequent to the field component of the audit CMM modified their written procedure to maintain a minimum pH of 9.2 for low concentration cyanide solutions. CMM was requested to provide the risk assessment or management of change documentation in support of this change in procedure. See CAR **CMM-ICMC-CAR-08**. However, as the potential for generation of HCN is low as stated above, no immediate or substantial risk to health, safety or the environment is likely to be incurred in during the resolution of this CAR.


Areas where cyanide is handled and workers may be exposed to HCN gas have been identified. Until 2012 CMM had fixed HCN monitors in the ADR plant, the Neutralization Room and on the upper deck in the Cyanide Mixing Area. These monitors were set to alarm at 4.7 ppm. Although the possibility of HCN generation in Train C is low because the dilute cyanide solutions in this area, CMM recently installed fixed HCN monitors in Train C as well as in the Gold Room. CMM's Instrumentation Department calibrates each fixed monitor weekly and has maintained records over the past three years. Calibration is based on the manufacturer's equipment manual. CMM has 30 GasAlert portable HCN monitors. Each operator that encounters cyanide in the workplace is issued a monitor. The monitors are checked and calibrated on a monthly basis by the Instrumentation Department.

Anyone entering the plant must carry a respirator equipped with HCN and dust filters. CMM has a respirator fit-testing program. Visitors are provided with respirators and are fit tested prior to being permitted to enter areas where cyanide is present. Workers were observed to be clean shaven and equipped with respirators and portable HCN monitors in the workplace.

Cyanide warning signage appeared to have been well maintained over the three year period since the certification audit. Cyanide warning signage was observed at entrances to the ADR plant, cyanide mix area, Train C Building, security gates to the cyanide storage building, and on the entrance gate to the solution ponds. Cyanide pipes and tanks within the ADR, mix plant and Train C Building were also signed and piping was colour coded and marked to show flow direction. Other signage observed included PPE requirements, no smoking, and boards displacing colour coding for piping content identification. Signage was clean and well maintained.

A number of areas were noted where warning signage could be improved. These included the cyanide storage tank and associated piping and fencing located between the ADR building and solution ponds; the area of the new booster pumps and associated valve manifolds for the heap leach; and the pregnant and barren lines routed in areas

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accessible to workers/ contractors that may be unfamiliar with heap leach operations. The absence of this signage was deemed not to pose an immediate health and safety risk, as before being permitted to work, all workers and contractors complete site induction and workplace hazard training that includes cyanide awareness. Nevertheless, subsequent to the audit, CMM installed cyanide warning signs in these areas and flow direction signage on pipelines.


Shower and eyewash stations are located in strategic areas of the ADR and pond area. These stations are plumbed into the pressure regulated (30 psi) fresh water supply. In addition there are a number of self-contained eyewash stations. Showers and eye wash stations are checked each shift change (i.e., weekly) for flow, condition and access. An exception noted was the upper deck of the ADR above the adsorption columns, where there was no shower eyewash station immediately accessible; the nearest shower/eyewash station was on the ground floor. Although the absence of a station on the upper deck was not deemed an immediate or substantial risk to health and safety, CMM installed three new shower eye/wash stations in the ADR to provide more direct and nearby access to a shower/eyewash on all three level of the ADR in the event of an emergency.

Fire extinguishers in the cyanide use areas were all dry chemical ABC extinguishers, with exception of two CO₂ extinguishers noted in the Train C building. These extinguishers were removed and replaced with ABC dry chemical extinguishers. The fire extinguishers are inspected weekly and serviced by an outside contractor.

MSDS manuals containing hard copies of MSDS are located at each of the emergency kit stations strategically located about site. In addition there is signage at the entrance to the cyanide warehouse compound and ADR/laboratory area car park that provide the procedures for first aid response to cyanide emergencies. All employees are also provided with a booklet that details the hazards associated with cyanide, the symptoms, and first response actions. All information is provided in Spanish, the first language at the mine.

The incident reporting and investigation procedure used at the time of the 2008 certification audit still applies to all cyanide handling and usage practices. All incidents are investigated to a level commensurate with the relative severity of the incident. The procedure is supported by and actively managed on an Excel™-based tracking table that identifies the location and other particulars of the incident, type, cause, individual or parties responsible for correction, and corrective action or control methods applied. There have been several incidents involving cyanide since the previous audit. These included 4 incidents in 2009 involving process leaks in or near the ADR, cyanide warehouse or leach area; 5 incidents in 2010 involving pipe leaks in the leach area or near the ADR; and in 2012 a leakage of solution from a disconnected solution feeder

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pipeline caused by a heap leach cell slope failure. No cyanide related incidents were observed for 2011.

Investigation results and corrective actions are communicated to workers through daily meetings or other means. Corrective action tasks are subject to the ARO process, and may also lead to new or additional training requirements, or modification of current operating procedures.

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

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

Describe the basis for this Finding/Deficiencies Identified:

Trauma/Oxygen kits are strategically located in areas of the site where cyanide is used and handled and also in the clinic. Each kit is provided with a cupboard and temperature-controlled (i.e., monitored with a calibrated electronic temperature gauge) refrigerator which contain all the necessary elements to attend a person exposed with cyanide including amyl nitrite, and medical oxygen. The kits are inspected at least monthly and maintained by the area in which the kit is located. Several gaps were identified in the emergency kit inspection records, especially during 2009 and 2010. These gaps were attributed to poor record keeping as inspection procedures appeared to have been followed. This deficiency was corrected in 2011 when CMM retained a Safety Engineer to manage the Cyanide Code Office. Records since August 2011 present appear to be complete.

All workers are equipped with radios for use in the field and plant. In addition there is a telephone in the control room and workers have cell phones as an alternative communication system in the event of an emergency.

CMM has developed plans for responding to cyanide leaks and spills. The plans include a general response plan for cyanide emergencies and specific plans that cover emergency response for specific emergency scenarios involving solid or liquid cyanide spills, release of HCN gas, power outages, fire and explosions. CMM contracts Mutual de Seguridad ("Mutual") to provide clinical and emergency response services at the mine site. There is regular direct contact between Mutual and the hospital. The contract was renewed in June 2011 and runs until June 2014. The new contract requires Mutual to provide two doctors and eight paramedics at the site to man the mine and two camps and provide medical services as required 24 hr a day, 7 days a week. Mutual doctors and paramedics are trained in treating cyanide exposure and participate with the emergency brigade in mock drill exercises.

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In the event that a patient needs off-site attention there are two ambulances stationed at the mine available to transport the patient to a hospital in Copiapo. The journey to the hospital in Copiapo takes approximately 4 hrs from the mine site. In addition, CMM signed a three year contract that runs to March 31, 2014 with Aerorescate S. A., a helicopter emergency response company based in Copiapo. This contract provides emergency evacuation services, as needed and stipulates that the rescue helicopter is accompanied by a doctor.

Mock drills are undertaken that include both worker exposures and environmental releases. In the past three years CMM has undertaken five mock drills involving cyanide or related emergency situations.

Procedures for conducting mock drills require evaluation of drill results and development of an action plan to address any deficiencies identified. It is understood that all deficiencies are generally addressed within the schedules set in the action plan, however, there was no sign-off records available to confirm that actions had been completed. A formal tracking system was recommended to track actions to completion to ensure they are implemented. The Brigade Chief indicated that this issue had recently been identified and the mock drill form and procedure was in the process of being updated to track actions and sign-off on completion.

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

Standards of Practice


7.1 Prepare detailed emergency response plans for potential cyanide releases.

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

Describe the basis for the Finding/Deficiencies Identified:

CMM has developed a general emergency response plan (ERP) which sets out procedures, roles and responsibilities for responding to emergencies. For cyanide related emergencies, CMM has identified and evaluated probable emergency situations and developed specific plans to address each type of situation. Each specific plan describes the standard procedures to follow in the event of an unplanned release of

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cyanide or cyanide related emergency. The plans include initial response, first aid, spill response for possible emergency, and spill control and clean-up.

The cyanide supplier (DuPont Chile S.A. and Orica) and their transporter (Veresay) are responsible for transportation related emergencies prior to delivery of cyanide to the CMM warehouse, as defined in the cyanide purchase agreements. Both the Veresay ERP and the CMM General ERP provide communication coordinates and contacts if assistance is requested. CMM has a specific ERP for responding to transportation of cyanide emergencies. This plan addresses release scenarios, and response and cleanup actions.

The emergency response plan has not changed significantly since the initial certification audit and describes specific response actions including clearing site personnel from the area of exposure, PPE and equipment for response, use of cyanide antidotes and first aid measures for cyanide exposure, control of releases at their source, and containment, assessment, mitigation and neutralization of spills and route cause analysis and future prevention of releases. For emergencies that extend outside the boundaries of the site Kinross's Crisis Management Plan would be implemented. This plan sets out internal and external communication requirements/ responsibilities with regulatory agencies, local communities, the media, and next of kin of injured personnel.

7.2 Involve site personnel and stakeholders in the planning process.


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

Describe the basis for the Finding/Deficiencies Identified:

Workers are able to provide input in emergency response planning, during 5-minute meetings where workplace issues are discussed, in the ARO risk evaluation process that is completed prior to undertaking non-routine work and through the suggestion box where workers can post suggestions. Emergency responders also provide input during post emergency or mock drill exercise debriefings. Mutual paramedics and doctors also provide input through development of first aid procedures, cyanide first aid training and participation in emergency response and mock drill exercises.

Since the 2008 certification audit, Kinross has continued its policy of actively engaging representatives of the local communities and other public and private stakeholders in addressing questions and concerns on the use of cyanide in mining, and the management of transportation on accidents or other emergencies involving cyanide. Current versions of emergency response plans include procedures for communicating with the various Stakeholders during an emergency. Outreach planning for 2012

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indicates that multiple outreach visits are scheduled for six discrete communities, municipal officials from Tierra Amarilla and Copiapo, police and other governmental security organization, and at least one multicultural organization.

Because of the remoteness of the site, CMM has developed the capacity to respond to all probable emergencies. However, in the unlikely event that additional backup is required the Copiapo Fire Department would be called upon for assistance. CMM and the Copiapo Fire Department regularly communicate through emergency training programs and periodic Copiapo Fire Department visits to the mine site. In addition, CMM has an emergency helicopter evacuation service contract with Aeorescate S.A based in Copiapo. DuPont and Mutual are the only stakeholders with direct involvement/responsibility in the emergency response plan, and are notified of any changes in the plan.

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

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

Describe the basis for the Finding/Deficiencies Identified:

CMM has committed the necessary emergency response personnel, resources and equipment to implement the ERP. The General Manager (GM) or alternatively the Resident Manager is the Emergency Coordinator with the appropriate authority to implement the plan. The GM is responsible for ensuring that the site has a trained emergency response team (ERT). The ERP defines minimum annual training requirements for brigade team members. The ERT is managed by the Brigade Chief who also maintains a 24 hr contact list of responders and coordinators. The duties and responsibilities of the coordinators and team members are set out in the ERP.

Emergency equipment is checked monthly by the Brigade and emergency response station kits and least monthly by the areas where the kits are located. The roles of outside responders (Mutual and DuPont/Verasay) are incorporated into the ERP as medical/first aid responders and offsite spill responders during transportation, respectively. The General ERP was recently updated to incorporate the Aerorescate S.A. helicopter medical evacuation capability. This capability was tested during a mock drill conducted on 30 January 2012 that involved a helicopter evacuation. Although, CMM and DuPont/Verasay personnel do participate in joint training exercises none were scheduled during the last three years.

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

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

Describe the basis for the Finding/Deficiencies Identified:

The ERP provides contact information and roles and responsibilities for communicating within CMM during an emergency and with regulatory agencies, outside responders, media and the public. First communication is through the initial responder alerting security and the emergency brigade. This call implements a set of emergency actions including advising radio silence; broadcasting emergency, location and assistance required; and requesting required equipment and notifying outside entities. The ERP provides lists of contact information for regulatory agencies, outside responders, and hospitals. The communication chain is detailed in the ERP. Depending on the level of emergency there are procedures for notifying Kinross corporate and for communicating with media and regulators.

A procedure is in place for communicating with the community. The Manager of Corporate Affairs determines whether communication with the community through the Government agencies is necessary and the method of communication is decided between the Crisis Team Coordinator, the Manager of Corporate Affairs and the Environmental Manager. Communication may be through a government agency, personal visits, telephone, or communication in writing.


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

The operation is: ■ in full compliance
 in substantial compliance
 not in compliance...with Standard of Practice 7.5.

Describe the basis for the Finding/Deficiencies Identified:

The specific cyanide ERPs address remediation measures various cyanide release situations. These measures include excavation when HCN gas is present, cleanup of solid cyanide spills, containment and neutralization of solutions, and disposal of contaminated soil and debris. Contaminated soil is disposed on the leach pad. The plans also address the soil and water sampling and analysis methods and remediation

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criteria to be used for evaluating the completion of remediation of cyanide spills that impact land or surface water.

Sodium hypochlorite, hydrogen peroxide, and lime are chemicals referred to in the emergency response plan to neutralize spills. Precautions are provided that limit the use of hypochlorite and peroxide to weak cyanide solutions. The ERP prohibits the use of chemicals where spills may impact surface water.

The provision of alternate drinking water is not considered an issue at the mine as the supply well is located 22 km up-gradient from the site and is therefore not at risk. The nearest community well is located approximately 12 km away and therefore also not considered to be at risk.

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

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

Describe the basis for the Finding/Deficiencies Identified:

There is a general requirement that all procedures are reviewed on an annual basis. The date of review and any revision is documented, together with sign-off by the author of the change and the approving manager, which in the case of the emergency response plans is the health and safety superintendent. Review of the General ERP revealed that it had been revised four times since 2007 with the latest revision dated October 2011. The specific cyanide ERPs were reviewed and/or revised in 2011 and 2012. The plans are considered to be living documents and are modified as required to incorporate an improvement identified during an incident or mock drill.

Mock drills are undertaken that include both worker exposures and environmental releases. In the past three years CMM has undertaken five mock drills involving cyanide or related emergency situations.

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

Standards of Practice

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

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

Describe the basis for the Finding/Deficiencies Identified:

CMM provides site hazard awareness training to all new employees, contractors and visitors to the site as required by “Derecho a Saber” (DAS) or employee right-to-know. In addition, all new employees and contractors that work in areas where cyanide may be encountered are required to complete “Basic Cyanide” training. This training program is modeled on DuPont’s cyanide awareness training program. Worker understanding of basic cyanide hazard recognition and spill response training is evaluated via written examinations. Examination format is robust, requiring substantial explanation of key points as a demonstration of the trainee’s knowledge. Trainees are required to undertake additional instruction if the exams pass mark is not achieved.

In 2009 and 2010 cyanide hazard recognition refresher training was provided by Mutual paramedics and consisted of a 1 day training session covering a broad range of first aid topics that included cyanide hazard and first aid. In 2011/2012 cyanide refresher training was separated from the general first aid training and is now provided separately by a Mutual doctor.

DAS training records are retained by the Safety Department. Basic cyanide training is tracked on an online spreadsheet. Paper copies of the training attendance sheets are filed in the Cyanide Office, although records for 2009 and 2010 were not available for review. Training attendance sign-off sheets for 2011/ 2012 training sessions were reviewed and appeared to be complete. Records for 2010 first aid provided by Mutual were not specific with regard to the cyanide component of the training. Records for the 2011/2012 cyanide refresher training were reviewed are appeared to be complete.

Although available documentation and discussion with trainers and participants indicate that basic training and refresher training in conducted, records were not fully maintained during 2009 and 2010. In 2011, CMM corrected this deficiency situation by revising its procedures regarding maintenance of training records, and records for the 2011/2012 refresher training appear to be complete. To confirm that the revised procedure for retaining records is sustainable CMM was requested to provide documentary evidence over the next year to confirm that basic and refresher training records are being retained. Please see CAR **CMM-ICMC-CAR-09**. However, as there was other evidence that the required training is being conducted periodically as stated above, no immediate or substantial risk to health, safety or the environment is likely to be incurred in during the resolution of this CAR.

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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
 ■ in substantial compliance
 not in compliance...with Standard of Practice 8.2.

Describe the basis for the Finding/Deficiencies Identified:

Operational procedures and cyanide management procedures collectively form the basis for the task training program. These procedures provide the information on the primary hazards of the task, required PPE, step by step instruction on performing the task, and reference to related safety and operating procedures. The training program follows the regulatory requirement, DAS or employee right-to-know. Training must be completed to the satisfaction of the supervisor before a worker is allowed to work unsupervised in that area or process. Additional training in cyanide management procedures applicable to specific work assignments is also provided to the workforce by the Cyanide Code specialists or other qualified staff. The operator training is undertaken by supervisors or managers/monitors who are experienced in cyanide process operations. Trainers have received detailed training on the management of cyanide in the workplace via DuPont Chile.


In 2011 CMM introduced a formal refresher training program for operational task training. Supervisors provide classroom refresher training on operational procedures and training records (sign-off sheets, topics, trainer and date) are retained by the Cyanide Code office and tracked on a training matrix. Prior to this program being initiated in August 2011 CMM was not documenting and tasking refresher task training.

To confirm that the new procedure for recording task training is sustainable CMM was requested to provide documentary evidence over the next year to confirm that initial and refresher task training records are being retained and tracked. Please see CAR **CMM-ICMC-CAR-09**. As there was other evidence available indicating that the required training is being conducted periodically, no immediate or substantial risk to health, safety or the environment is likely to be incurred in during the resolution of this CAR.

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

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

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Describe the basis for the Finding/Deficiencies Identified:

All workers that may encounter cyanide are trained in emergency first response procedures as part of basic cyanide induction training. Operators are also provided with and trained in the use of personal HCN monitors, which in addition to the fixed HCN monitors strategically located in the ADR, alert operators of HCN gas releases and when to evacuate a work area.

Cyanide unloading, mixing, production and maintenance personnel, and ERT members, are trained in first aid procedures in the event of a cyanide exposure, including the application of medical oxygen and amyl-nitrite emergency response procedures. Mock drills are periodically undertaken to test and improve response skills of emergency responders, and operators are tested on their first responder actions when a drill is conducted in their area of work.

CMM's loss control procedures require that all personnel be instructed in the provisions of the ERP as well as general cyanide awareness. ERT members receive additional training as first responders and emergency response coordinators, and also serve as an internal training resource for Emergency Response Plan training. Emergency response team members also undertake periodic external emergency response training. In April 2011 six members of the emergency response team completed a 40 hr HAZMAT training program provided by TOK Capacitacion. All emergency response team members are trained in the use of self-contained breathing apparatus (SCBA).

Generally community members and local responders and medical providers would not participate in an emergency, as CMM has the equipment and trained personnel to handle all probable emergency situations. Medical capability is available from Mutual on-site paramedics and doctors. However, Mutual is in regular contact with regional hospitals that can provide additional support if required and CMM has a good relationship with Copiapo Fire Department who would be called on if needed. Also, in 2011, CMM signed a contract with Aerorescate S.A. to provide medical evacuation services, if required.

9. DIALOGUE: Engage in public consultation and disclosure.

Standards of Practice

9.1 Provide stakeholders the opportunity to communicate issues of concern.

The operation is:

- in full compliance
- in substantial compliance

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not in compliance...with Standard of Practice 9.1.

Describe the basis for the Finding/Deficiencies Identified:

Review of records and discussions with the Community Relations Manager and Community Relations Department staff indicates that Kinross has significantly expanded its regional community relations capabilities since the previous audit, in response to a Kinross Corporate initiative. The current Community Relations Manager is supported by five staff (two community relations coordinators, one field coordinator, and two budget and donation specialists).

It is understood that World bank/International Finance Corporation standards for development of project community relations programs were corporately invoked, and are being reflected in a number of regional actions. *Ad hoc* meetings have been held with stakeholders in Copiapo and in the outlying Colla communities. As another example, documentation of initial outreach activities conducted for the Lobo-Marte project was reviewed that is, in the auditor's judgment, relevant to all of Kinross's properties in the Maricunga District, as they all share the same basic cyanide transportation chain and routing considerations and the same general group of concerned stakeholders. Attendance sheets were reviewed that indicate participation by private citizens, local officials from Copiapo, and members of specific Colla communities. Outreach planning for 2012 indicates that multiple outreach visits are scheduled for six discrete communities, municipal officials from Tierra Amarilla and Copiapo, police and other governmental security organizations, and at least one multicultural organization.

9.2 Initiate dialogue describing cyanide management procedures and responsively address identified concerns.

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

Describe the basis for the Finding/Deficiencies Identified:

As noted in 9.1, Kinross has (via the corporate community relations office in Copiapo) continued to conduct periodic meetings with the Colla communities, officials from Copiapo, and other stakeholder groups that represent appropriate opportunities to provide information to address any concerns over the use of cyanide that might occur in relation to any of Kinross's properties in the Maricunga District. Evidence was provided in discussions with the Community Relations Manager and other Community Relations staff indicating a significant increase in outreach contacts in 2011. Planning is in effect to aggressively expand the outreach program in 2012.

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

The operation is: ■ in full compliance
 in substantial compliance
 not in compliance...with Standard of Practice 9.3.

Describe the basis for the Finding/Deficiencies Identified:

A simplified brochure on cyanide safety and emergency response is widely available at the mine site and man-camp. It was noted that a booklet that had been previously developed by CMM prior to its original certification audit that generally described the use of cyanide in gold mining had gone out of production, and no copies were available for distribution. However, prior to the submittal of this report, CMM developed an updated trifold brochure suitable for general distribution. A copy of this replacement brochure as well as an internal memo describing overall practices for the open distribution of information on cyanide use in mining to external stakeholders was provided to the auditor for review. As cyanide safety and emergency response information was widely available to any site visitors, and CMM has routinely disseminated information on cyanide use in meetings with various stakeholder groups , the temporary lapse in the availability of a general brochure has not, in the auditor's judgment, contributed to any significant environmental or OHS risk.

Review of presentation materials and associated photographs associated with current initiatives indicates that CMM has provided general information about the management and use of cyanide to various stakeholder groups, in a verbal, visually supported, and culturally sensitive format. Also, incident data from 2009 to date indicate that no exposure incidents have occurred since the certification audit was conducted. If such an incident were to occur, CMM procedures require that appropriate press releases be prepared by or at the direction of the General Manager to accurately describe the particulars of the event, probable cause, the individuals involved, the actions taken, and other appropriate information.

Review of incident data from 2009 to date also indicates that no offsite releases of cyanide, releases with significant adverse effects to health or the environment, or reportable spills have occurred in the years since the initial certification audit. Were they to occur, the same emergency communication and notification requirements noted above would apply. Such information would also be reported to Kinross in monthly key performance indicator (KPI) reports. KPI data are typically made available in the Environmental Performance section of Kinross's biannual Corporate Social Responsibility (CSR) report.

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