

***INTERNATIONAL CYANIDE
MANAGEMENT INSTITUTE***

***Cyanide Code Compliance Audit
Gold Mining Operations***

Summary Audit Report

***Harmony Gold Mines Limited
Evander Kinross Gold Plant
South Africa***

15th – 19th March 2010



Name of Operation: Evander Kinross Gold Plant

Name of Operation Owner: Harmony Gold Mines Limited

Name of Operation Operator: Harmony Gold Mines Limited

Name of Responsible Manager: Fulufhuwani Eugene Dagumi, Plant Manager

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Location detail and description of operation:

The Kinross Plant is situated in the town of Evander, in Mpumalanga Province, South Africa, approximately 134 km east of Johannesburg. The plant treats ore from Evander No.7 and Evander No. 8 Shafts, including various surface sources.

There are six SAG mill operating in closed circuit with a hydro cyclone. A portion of the cyclone underflow is directed to Knelson centrifugal concentrators for the recovery of free gold. There is one Knelson Concentrator for every two milling units. Gravity concentrate is sent to the smelt house where it is tabled and further processed via intensive cyanidation and electrowinning. A residual osmiridium concentrate is sent to Mintek for further processing. It has been estimated that approximately 30% of the gold is recovered by Knelson concentrators. The milled product is nominally 78% passing 75 microns.

The cyclone overflow is directed, via linear screens, to five thickeners. The thickened pulp is transferred to the leach, CIP/CIL, circuit via a surge tank into which liquid sodium cyanide is added. The leach configuration is based on one surge tank, two leach tanks, four CIL tanks and seven leach tanks. Eight of the 14 flat bottomed tanks are air agitated and six are mechanically agitated. Oxygen is injected into the first mechanically agitated leach tank. The tailings from the leach train proceed to the CIP circuit, consisting of six flat bottomed, mechanically agitated, vessels. Virgin and regenerated carbon is added to the last tank of the CIP circuit and is transferred up the train to the first vessel. The

partially loaded carbon is transferred to the last vessel in the CIL train, prior to being moved to the head of the CIL. Loaded carbon is screened and forwarded to ZADRA elution in two columns and associated electro winning cells. Eluted carbon is regenerated via a Rotary Kiln before being acid treated. The cathodes are cleaned and the gold sludge filtered and dried, prior to being transported to Rand Refinery.



Auditor's Finding

This operation is

- in full compliance
- in substantial compliance *(see below)
- not in compliance

with the International Cyanide Management Code.

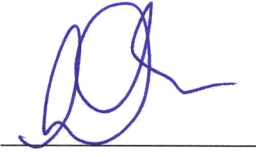
* The Corrective Action Plan to bring an operation in substantial compliance into full compliance must be enclosed with this Summary Audit Report. The plan must be fully implemented within one year of the date of this audit.

Audit Company: Eagle Environmental

Audit Team Leader: Arend Hoogervorst

E-mail: arend@eagleenv.co.za

Names and Signatures of Other Auditors:

Name : Dawid M. L Viljoen Signature  Date: 7/10/2010


Dates of Audit: 15th – 19th March 2010

I attest that I meet the criteria for knowledge, experience and conflict of interest for Code Verification Audit Team Leader, established by the International Cyanide Management Institute and that all members of the audit team meet the applicable criteria established by the International Cyanide Management Institute for Code Verification Auditors.

I attest that this Summary Audit Report accurately describes the findings of the verification audit. I further attest that the verification audit was conducted in a professional manner in accordance with the International Cyanide Management Code Verification Protocol for Gold Mine Operations and using standard and accepted practices for health, safety and environmental audits.

Evander Kinross Gold Plant

Facility


Signature of Lead Auditor

7/10/2010
Date

Evander Kinross Gold Plant

Signature of Lead Auditor

7th October 2010

Auditor's Findings

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.

X in full compliance with

The operation is in substantial compliance with **Standard of Practice 1.1**

 not in compliance with

Basis for this Finding/Deficiencies Identified:

There is a Harmony Group-wide, cyanide supply contract, covering all Harmony Gold Plants, in place with SASOL Polymers, as the sole supplier of liquid Sodium Cyanide, delivered by bulk tanker. This supply contract includes Evander Kinross Gold Plant. SASOL Polymers is a signatory to the Cyanide Code and was re-certified as a fully compliant Production Facility with the ICMI Cyanide Code on 2 March 2010.

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

Standard 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.

X in full compliance with

The operation is in substantial compliance with **Standard of Practice 2.1**

 not in compliance with



Basis for this Finding/Deficiencies Identified:

There is a formal agreement memorandum between SASOL Infrachem SiLog and Evander Kinross Gold Plant which covers the responsibilities and requirements for safety, security, unloading, emergency response (spills prevention and clean-up), route planning and risk assessments, community liaison, emergency response resource access and availability, training, and communication. The liquid sodium cyanide is supplied by bulk tanker (design and specifications meeting national and international standards) to the site by SASOL Infrachem SiLog. SASOL Infrachem SiLog was re-certified on 13 January 2010 as a fully ICMI Code compliant transporter.

Standard of Practice 2.2: Require that cyanide transporters implement appropriate emergency response plans and capabilities and employ adequate measures for cyanide management.

X in full compliance with

The operation is in substantial compliance with **Standard of Practice 2.2**

 not in compliance with

Basis for this Finding/Deficiencies Identified:

The agreement memorandum between SASOL Infrachem SiLog and Evander Kinross Gold Plant requires that transporters be certified under the Code. SASOL Infrachem SiLog was re-certified on 13 January 2010 as a fully ICMI Code compliant transporter.

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

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

in full compliance with

The operation is **X in substantial compliance with Standard of Practice 3.1**

 not in compliance with

Basis for this Finding/Deficiencies Identified:

The operation uses only liquid cyanide, delivered by bulk tanker, and no mixing takes places on site. The cyanide unloading and storage facilities include a liquid sodium

cyanide storage tank and two redundant flake calcium cyanide tanks. Plans are in place to establish new cyanide offloading and storage facilities which include the decommissioning of all old storage and offloading facilities. The old facilities dated back around 40 years and no detail design documents or quality control/assurance documentation is available although an overall plant plan was sighted. A Corrective Action Plan has been agreed to cover decommissioning of old plant and facilities and construction and commissioning of a new, fully Code compliant, cyanide offloading and storage facility. Thickness tests conducted on liquid cyanide tank in 2007. An inspection report by the cyanide manufacturer's technical officer declared the facilities reasonable. The structures were designed and located on concrete and away from people and surface waters and built with materials appropriate for use with cyanide. The unloading area drains back into CIP bund area via a drain and a valve arrangement. The Storage Tank is equipped with electronic level measurement device, reading on the SCADA in the control room. The instruments are not interlocked with the offloading air but the control room operator sees the level display on the SCADA. The procedure covering cyanide unloading was reviewed and found to be effective. Cyanide areas are within the access controlled plant security area which is securely fenced.

Standard of Practice 3.2: Operate unloading, storage and mixing facilities using inspections, preventive maintenance and contingency plans to prevent or contain releases and control and respond to worker exposures.

X in full compliance with

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

Basis for this Finding/Deficiencies Identified:

Only liquid cyanide is used and is delivered via bulk tanker to storage tanks. The offloading procedure is detailed, spelling out PPE requirements, use of a buddy in the process, and clearly sequenced to prevent spillages and accidental releases during off-loading.

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

Standard of Practice 4.1: Implement management and operating systems designed to protect human health and the environment utilizing contingency planning and inspection and preventive maintenance procedures.



in full compliance with

The operation is **X in substantial compliance with Standard of Practice 4.1**

not in compliance with

Basis for this Finding/Deficiencies Identified:

The site has 77 cyanide specific operational and engineering procedures for normal, abnormal and emergency conditions, supported by 16 TSF contractor operating and management procedures and 17 SHEQ procedures for TSF activities and a mandatory Code of Practice covering TSF operation. Routine daily, weekly, monthly and quarterly inspection reports, legal inspections, and checklists were sampled to check the effectiveness of systems and ensure that proactive and reactive management takes place. Basic engineering condition monitoring and Planned Maintenance Inspections are conducted and a weekly inspection and maintenance checklist issued. Tank thickness testing is done on a planned basis. A more advanced, electronic DMS 2000 PMS system was implemented in Dec 2009. However, there was insufficient PMS history to establish effectiveness and sustainability of the more extensive and structured system. A Corrective Action Plan is in place to confirm effectiveness of the new system. Quarterly technical inspections of the TSF facilities are undertaken to ensure integrity and safety. A change management procedure covering health, safety and environment is in place and operational.

There is a probabilistic water balance in place, and no scenario has been identified where the need has been highlighted to shut down plant to prevent overtopping. The plant is also operating at only 50% of its design capacity.

Standard of Practice 4.2: Introduce management and operating systems to minimize cyanide use, thereby limiting concentrations of cyanide in mill tailings.

X in full compliance with

The operation is in substantial compliance **with Standard of Practice 4.2**

not in compliance with

not subject to

Basis for this Finding/Deficiencies Identified:

Weekly bottle roll tests are conducted and results from 2008 to date for 8 underground mine shaft, surface sources, thickener underflow were reviewed. The indications are that surface resources consumes more lime and cyanide. The tests cover pH, cyanide consumption, and lime consumption. Leach profile samples are also taken. Previous test work covered reagent optimisation. A WAD cyanide analyser is also used to optimise cyanide consumption and gold recovery efficiencies by measuring the residue WAD

cyanide and adjusting the cyanide in the feed. A TAC2000 free cyanide addition controller and a WAD 1000 on line WAD cyanide analyser are installed and used for cyanide control and WAD monitoring.

Standard of Practice 4.3: Implement a comprehensive water management program to protect against unintentional releases.

X in full compliance with

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

Basis for this Finding/Deficiencies Identified:

A probabilistic water balance for the TSF and for the plant was sighted. Information is included on rainfall, storm events, evaporation, and solution deposition. Rainfall data is collected daily on the TSF and combined with local rainfall measurements which date back 30 years. There is no run of for the TSF but run on is calculated for the return water dam. No discharges to surface water occur under normal conditions, but abnormal precipitation events are treated as emergencies under the emergency plan and managed under the monitoring procedures.

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

X in full compliance with

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

Basis for this Finding/Deficiencies Identified:

The plant measures for WAD cyanide in residue tank at plant, using an on line WAD 1000 analyser, and special WAD samples are taken monthly at the tip point on the TSF, penstock and return water dams. Following the implementation of the cyanide optimisation programme, WAD cyanide results have been consistently below 50 mg/l from August 2009 to date, all ponds and dams WAD cyanide values are also consistently less than 50mg/l. Thus no special measures are needed for the protection of wildlife and livestock. Daily wild life inspections are conducted on the TSF and reported to plant management and the mine environmental department conducts independent TSF wildlife inspections. No cyanide confirmed mortalities have been recorded since becoming signatories to the Code.



Standard of Practice 4.5: Implement measures to protect fish and wildlife from direct and indirect discharges of cyanide process solutions to surface water.

X in full compliance with

The operation is in substantial compliance with **Standard of Practice 4.5**

 not in compliance with

Basis for this Finding/Deficiencies Identified:

No licensed discharge of mine water to surface water is permitted. One incident between June 2009 to date from the Kariba return water dam occurred during an upset in water balance due to an excessive rainfall event. All incidents of this nature are fully investigated by the environmental department. No seepage occurs from the Kariba return water dam to Grootspuit stream with French drains in place and boreholes regularly sampled. No results have shown any presence of WAD cyanide above the limit of detection of 0.02 mg/l. However, the Kariba dam-type incidents are unlikely to occur in the future as the mine and plant are operating at significantly below design capacity, due to closure of some shafts.

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

X in full compliance with

The operation is in substantial compliance with **Standard of Practice 4.6**

 not in compliance with

Basis for this Finding/Deficiencies Identified

There are no beneficial uses of groundwater close enough to be affected by the operation. No borehole water is used from mining property. Coal mines may become beneficial users in the future as new mines are developed. Boreholes are in place below TSF's. The Evander Kinross TSF is situated on a clay layer and the dam is equipped with under drains, collecting the water to the return water dams. Seepage from the return water dams occurs at the Kariba facility and weirs and French drains are installed to return the seepage water to the Kariba dam. The plant surface is covered by concrete and tarred roads, with water trenched to silt traps and water containment dams, from it is returned to the plant.

No current jurisdictional standard exists for cyanide in groundwater, no beneficial use has been established, and no compliance points have been established. Monitoring boreholes around the TSF are in place, and monitored for WAD cyanide with all results showing less than 0.5 ppm WAD cyanide.

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

X in full compliance with

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

Basis for this Finding/Deficiencies Identified:

The leach, CIP, residue tanks are placed inside bunds. Based upon knowledge of engineering and construction practice when the plant was built 40 years ago, it can be concluded that the tank bases are all solid concrete. Ring beams were not used in South Africa during this time. The reagent strength cyanide tank is placed on a structure on a solid concrete base above a concrete floor.

Leach and reagent strength cyanide areas are linked to a holding tank which is equipped with a pump returning the spillage to leach tanks. Residue and CIP bund areas are equipped with spindle pumps, returning spillage back to the process. Drains will take any overflow of the bund area to the emergency spillage dam outside the fence, from where spillage can be returned to the plant via the linear screen. Kinross tailings pipeline is close to the TSF and placed inside a spillage trench where it runs along the public road, the ring main pipe is placed inside the dam paddocks to contain spillages. Cyanide tanks and pipelines are manufactured from materials compatible with cyanide and high pH conditions.

Cyanide solution lines in the plant are installed overhead bunds and tarred / concrete surfaces or in “pipe within a pipe” containment. No pipelines cross streams or present a risk to surface water.

Standard of Practice 4.8: Implement quality control/quality assurance procedures to confirm that cyanide facilities are constructed according to accepted engineering standards and specifications.

X in full compliance with

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

Basis for this Finding/Deficiencies Identified:

No Quality Control/Quality Assurance documentation is available as the plant is 40 years old. A Professional Engineer’s visual inspection of the cyanide facilities, including the reagent strength cyanide storage, confirmed “Fit for Purpose”, provided regular inspections are undertaken and the new cyanide plant erected as soon as possible. PMS

inspections recently commenced weekly using an experimental basis as a start. Thickness testing is conducted and frequency will be refined using historical data. TSF Monthly inspections done and consolidated into the quarterly report, quarterly inspections and an annual review.

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

X in full compliance with

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

Basis for this Finding/Deficiencies Identified:

Procedures for environmental monitoring (including sample preservation and chain of custody procedures) of surface water and borehole water, developed by a competent person, were sighted and checked. Boreholes are placed and sampled upstream and downstream of the plant, The Grootspuit is sampled up and downstream of mine. Boreholes sampled monthly, the Grootspuit is sampled monthly, wildlife is monitored daily, water dams are sampled monthly.

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

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

X in full compliance with

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

Basis for this Finding/Deficiencies Identified:

A decommissioning procedure is in place which includes cyanide decommissioning and a formalised schedule for decommissioning. The decommissioning plan is reviewed annually.

Standard of Practice 5.2: Establish an assurance mechanism capable of fully funding cyanide related decommissioning activities.

X in full compliance with

The operation is in substantial compliance with **Standard of Practice 5.2**

 not in compliance with

Basis for this Finding/Deficiencies Identified:

The closure costs include specific line item funds for cyanide decommissioning. Closure cost estimates are updated on an annual basis as per legal requirement. A Financial Guarantee supported by a Bank, in terms of legal requirements, to cover closure costs (including cyanide decommissioning), is in place and the currency of the Financial Guarantee was verified.

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

Standard of Practice 6.1: Identify potential cyanide exposure scenarios and take measures as necessary to eliminate, reduce or control them.

X in full compliance with

The operation is in substantial compliance with **Standard of Practice 6.1**

 not in compliance with

Basis for this Finding/Deficiencies Identified:

The site has 77 cyanide specific operational and engineering procedures for normal, abnormal and emergency conditions, supported by 16 TSF contractor operating and management procedures and 17 SHEQ procedures for TSF activities and a mandatory Code of Practice covering TSF operation. Routine daily, weekly, monthly and quarterly inspection reports, legal inspections, and checklists were sampled to check the effectiveness of systems and ensure that proactive and reactive management takes place. Basic engineering condition monitoring and Planned Maintenance Inspections are conducted and a weekly inspection and maintenance checklist issued. Tank thickness testing is done on a planned basis. A more advanced, electronic DMS 2000 PMS system was implemented in Dec 2009. However, there was insufficient PMS history to establish effectiveness and sustainability of the more extensive and structured system. A Corrective Action Plan is in place to confirm effectiveness of the new system. Quarterly technical inspections of the TSF facilities are undertaken to ensure integrity and safety.

A change management procedure covering health, safety and environment is in place and operational. Plant personnel are involved in risk assessments. Safety meetings are held and include discussions on safety and health procedure as well as cyanide discussions.

Standard of Practice 6.2: Operate and monitor cyanide facilities to protect worker health and safety and periodically evaluate the effectiveness of health and safety measures.

X in full compliance with

The operation is in substantial compliance with **Standard of Practice 6.2**

 not in compliance with

Basis for this Finding/Deficiencies Identified:

The plant pH control ranges in the thickener at 10.5, leach between 10.7 (head) and 10.4 (tails) CIP 10.4 (head) and 10.2 (Tail) set in parameter sheet in the control room. A procedure is in place to response to low pH Levels. Witwatersrand ores are normally treated for gold leaching at pH of 10.5 minimum to prevent HCN formation. Three portable personal monitors used on plant, one fixed unit in ILR reactor room. A hot spot survey indicates no additional need for fixed monitors. Calibrations were done for 2009. On-going inspections and checks are also used to monitor and check facilities and emergency response equipment functioning. Safety equipment such as safety showers, low pressure eye wash stations, and fire extinguishers are numerous and adequately signposted.

Slurry pipelines are marked as cyanide containing, and return water dams and lined dam equipped with warning signs indicating poisonous water. Eating and drinking is only allowed in dedicated areas and this is indicated on signs and trained and reinforced during annual induction of contractors and plant staff. Cyanide pipelines are colour coded, and labelled. Formal employee interviews were used to check awareness and sensitivity to health and safety measures and the response from employees and contractors alike, was found to be appropriate and acceptable. Accident and incident reporting and investigation procedures, based upon the site safety reporting requirements, were found to be in place and effective.

Standard of Practice 6.3: Develop and implement emergency response plans and procedures to respond to worker exposure to cyanide.

X in full compliance with

The operation is in substantial compliance with **Standard of Practice 6.3**

 not in compliance with



Basis for this Finding/Deficiencies Identified:

The plant is equipped with an emergency room containing medical oxygen, face masks, BA sets, stretcher, telephone, PPE, and antidote in a fridge. The smelt house is equipped with a BA set, medical oxygen, and antidote in a fridge. There is an emergency alarm at the cyanide storage area. Radios and cell phones are used for communication and an additional antidote pack is available in the unit leaders office. All the treatment shift staff are trained as cyanide emergency responders with back up from the mill shift team. Cyanide equipment is regularly checked and tested and mock drills are held regularly on site.

Cyanide emergency cases are transported by contracted ER24 ambulances to Winkelhaak Hospital (a captive mine hospital, fully equipped to handle cyanide emergencies). Man down drills are used to assure that the medical facility is competent and equipped to handle emergencies. Hospital staff are specifically trained to handle cyanide emergencies.

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

Standard of Practice 7.1: Prepare detailed emergency response plans for potential cyanide releases.

X in full compliance with

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

Basis for this Finding/Deficiencies Identified:

The plant has used a risk assessment to develop site-specific emergency scenarios and responses for its emergency response plan. The emergency preparedness plan combines existing procedural responses and emergency provisions to deal with the various scenarios and includes and identifies the emergency response team and coordinators who are on all shifts. These preparations are regularly reviewed in the light of changes, mock drill learning points and employee feedback..

Standard of Practice 7.2: Involve site personnel and stakeholders in the planning process.

X in full compliance with

The operation is in substantial compliance with **Standard of Practice 7.2**

not in compliance with

Basis for this Finding/Deficiencies Identified:

The workforce are involved with the Plan via the emergency drills and safety meetings and give feedback. Representatives of the workforce (employees, Health & Safety Representatives and Union representatives) were involved in the risk assessment to develop the emergency scenarios and response in the emergency response plan and procedures. The community is not directly involved in the Plan but is informed on its contents during dialogue sessions. Drills are used to involve hospital and ambulance staff in planning processes.

Standard of Practice 7.3: Designate appropriate personnel and commit necessary equipment and resources for emergency response.

X in full compliance with

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

Basis for this Finding/Deficiencies Identified:

The Emergency Preparedness Plan details clear duties, roles and responsibilities for the various emergency scenarios. The emergency equipment inventory was checked and site inspections confirmed availability and readiness. The Plan includes contact references (telephone, cell phone, etc) of internal and external resources for the various scenarios, particularly with detail where external resources and skills might be needed. Periodic drills involving internal and external stakeholders ensure that roles and responsibilities are understood and clearly implemented.

Standard of Practice 7.4: Develop procedures for internal and external emergency notification and reporting.

X in full compliance with

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

Basis for this Finding/Deficiencies Identified:

The Emergency Preparedness Plan includes details for appropriate emergency notification and reporting (internal and external) and the call-out procedure and contact information lists which are updated regularly. Media communication is dealt with in the Plan.



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

X in full compliance with

The operation is in substantial compliance with **Standard of Practice 7.5**
 not in compliance with

Basis for this Finding/Deficiencies Identified:

The Emergency Preparedness Plan cross-references to detailed and specialised procedures which cover clean-up and remediation relating to releases, pipeline failures and spills, as appropriate to the site-specific identified scenarios. Use of neutralization processes and materials is clearly covered, as is disposal of contaminated materials and the use of treatment chemicals such as ferrous sulphate in surface water is prohibited.

Standard of Practice 7.6: Periodically evaluate response procedures and capabilities and revise them as needed.

X in full compliance with

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

Basis for this Finding/Deficiencies Identified:

The Plan is required to be reviewed annually, following incidents and emergency drills or when new information regarding cyanide becomes available. The report of a drill which included a cyanide spill and cyanide related injury was sighted. Evidence was sighted of learning points emerging from the various cyanide man-down drills.

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

Standard of Practice 8.1: Train workers to understand the hazards associated with cyanide use.

X in full compliance with

The operation is in substantial compliance with **Standard of Practice 8.1**

not in compliance with

Basis for this Finding/Deficiencies Identified:

All plant personnel inside the plant fence (including security) are trained in basic cyanide awareness. Modules include cyanide basic training using a 15 minute supportive video. This was confirmed during interviews with staff. Refresher training is done annually, based on schedules using training shift system (also used for routine update training), and the use of a matrix with a flagging system to ensure all staff is covered. Written tests are conducted. Selected employees were checked in interviews on their understanding of cyanide hazards, first aid and emergency response and this was further verified through checking of their training records. Records are kept for 40 years.

Standard of Practice 8.2: Train appropriate personnel to operate the facility according to systems and procedures that protect human health, the community and the environment.

in full compliance with

The operation is X in substantial compliance with Standard of Practice 8.2

not in compliance with

Basis for this Finding/Deficiencies Identified:

The whole training system within the Harmony Group was changed from a historically less formal training structure to a formally structured well planned system, referencing to national unit standards relating to Metallurgy. The new training system was implemented and is in the process of training the staff on the revised standards and procedures, which are ICMI code compliant. Implementation is in the early stages and training on critical cyanide related tasks need to be verified for full compliance. A corrective action plan has been developed to achieve the above within 8 months. All Trainers are trained and registered as Assessors and the Harmony Metallurgy training establishment is formally ISO 9001 accredited. A Plant specific Planned Task Observation (PTO) system is in place. Records are retained for 40 years on plant, after which the records are sent to a central archive.

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

in full compliance with

The operation is X in substantial compliance with Standard of Practice 8.3

not in compliance with



Basis for this Finding/Deficiencies Identified:

All staff trained as cyanide emergency responders and the plant uses 1st, 2nd, 3rd 4th responder system, as per their procedure. The training matrix specifies training for the emergency response team, unloading, production, and maintenance personnel in the procedure to follow if cyanide is released.

The whole training system within the Harmony Group was changed from a historically less formal training structure to a formally structured well planned system, referencing to national unit standards relating to Metallurgy. The new training system was implemented and is in the process of training the staff on the revised standards and procedures, which are ICMI code compliant. Implementation is in the early stages and training on critical cyanide related tasks need to be verified for full compliance. A corrective action plan has been developed to achieve the above within 8 months. Periodic mock drills are undertaken and training personnel attend these drills and formally evaluate response and performance.

9. DIALOGUE: Engage in public consultation and disclosure.

Standard of Practice 9.1: Provide stakeholders the opportunity to communicate issues of concern.

X in full compliance with

The operation is in substantial compliance with **Standard of Practice 9.1**

 not in compliance with

Basis for this Finding/Deficiencies Identified:

Quarterly Waterval forum meetings are held, discussing water related issues, and these are used to give presentations and hold two way discussions on cyanide. A special presentation in November 2009 to communities next to the slimes dam was given, covering cyanide information and first aid. Disaster management meetings are also attended where emergency preparedness is discussed.

Standard of Practice 9.2: Initiate dialogue describing cyanide management procedures and responsively address identified concerns.

X in full compliance with

The operation is in substantial compliance with **Standard of Practice 9.2**

 not in compliance with

Basis for this Finding/Deficiencies Identified:

Quarterly Waterval forum meetings are held, discussing water related issues, and these are used to give presentations and hold two way discussions on cyanide. A special presentation in November 2009 to communities next to the slimes dam was given, covering cyanide information and first aid. Disaster management meetings are also attended where emergency preparedness is discussed.

Standard of Practice 9.3: Make appropriate operational and environmental information regarding cyanide available to stakeholders.

X in full compliance with

The operation is in substantial compliance with **Standard of Practice 9.3**

 not in compliance with

Basis for this Finding/Deficiencies Identified:

The Kinross Metallurgical Plant leaflet explains what cyanide is, what it is used for, its dangers, exposures, how Harmony reduces the risk of cyanide use, what the ICMI is and various contact and emergency telephone numbers. The leaflet is distributed to community and schools. Owing to literacy problems, most of the cyanide presentations have to be given verbally. Copies of presentations were made available to stakeholders who requested them.

Reporting on incidents has not been done because there have been no incidents. Injuries must be reported to the Department of Minerals Resources who do not necessarily make the information publically available. Similarly, spills and releases must be reported to the Department of Water Affairs and Environment. Transport related incidents and reported by Sasol Infrachem, the transporter, through their own reporting mechanisms.

Annual reports do not include details on cyanide incidents. However, in a letter from the executive: environmental management of the Harmony Gold Mining Company to the ICMI Lead Auditor, it was stated that the Harmony Group communication on cyanide-related significant incidents will be included in its public website, as well as the annual report, should they occur.

