

***INTERNATIONAL CYANIDE  
MANAGEMENT INSTITUTE***

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

***Summary Audit Report***

***Harmony Gold Mines Limited  
Saaiploas Gold Plant  
South Africa***

***8<sup>th</sup> – 12<sup>th</sup> March 2010***

Name of Operation: Saaiplaas Gold Plant  
Name of Operation Owner: Harmony Gold Mines Limited  
Name of Operation Operator: Harmony Gold Mines Limited  
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**Location detail and description of operation:**

The Saaiplaas Gold plant is situated in the Free State Gold Fields, some 20kms south east of the town of Welkom and 2km north of the town of Virginia in the Free State province of South Africa.

The Phoenix Project is essentially a slime retreatment operation for gold extraction when slime is re-mined hydraulically from multiple old mine residue deposits, pumped to the Saaiplaas Gold Plant (converted from a milling and gold extraction plant to a slimes treatment plant in 2005/6) processing 520,000 tons per month, with potential expansion to 900,000 tons per month in 2010/11, pending final approval of a capital project.

The process operates at a cyanide addition of 220 ppm, with extraction efficiencies ranging between 42-46%, and produces around 65kg of gold per month.

***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

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Names and Signatures of Other Auditors:

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

Dates of Audit: 8<sup>th</sup> – 12<sup>th</sup> February 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.

Target Gold Plant

Facility

  
Signature of Lead Auditor

7/10/2010  
Date

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Target Gold Plant

Signature of Lead Auditor

7th October 2010

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*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 Saaiploas 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 Saaiploas 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. SASOL Infrachem 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 Saaiploas 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.*

**X in full compliance with**

**The operation is**             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. Design drawings for the cyanide off-loading and storage area were sighted, along with satisfactory inspection reports by the cyanide manufacturer's technical officer. The structures were designed and located on concrete and away from people and surface waters, away from incompatible materials, and built with materials appropriate for use with cyanide. The tanker unloading slab is sloped and drains back into the cyanide storage bund area. The cyanide storage tanks, which are located inside concrete banded areas, have ultra-sonic level indicators equipped an audible alarm set to go off at 90% of actual capacity. 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 which 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 72 cyanide specific operational and engineering procedures for normal, abnormal and emergency conditions, supported by TSF contractor safe working procedures for TSF activities and a mandatory Code of Practice covering TSF operation. Routine daily, weekly, monthly, quarterly and annual inspection reports, legal inspections, and checklists were sampled to check the effectiveness of systems and ensure that proactive and reactive management takes place.

The plant maintenance and inspection schedule includes preventative maintenance inspections on cyanide critical equipment. A new Harmony PMS system (DMS system)

is being implemented but an interim Excel spreadsheet based system is currently operating. Critical cyanide equipment has been loaded on the system. However, there is insufficient history available to demonstrate the effectiveness and sustainability of the PMS. There are no risks to health, safety and the environment as appropriate inspections are in place. A Corrective Action Plan is in place which will generate at least 6 months of history to enable system evaluation. 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. In the event of power outages under normal and abnormal conditions, a procedure is in place to ensure provision of additional containment capacity and back up diesel power and diesel pumps are internally available to be mobilised to prevent overtopping.

*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:*

The plant treats sources from various surface dumps being re-mined. The leach characteristics vary from dump to dump and horizontally in each dump. Bottle roll tests are conducted to establish cyanide consumption. Current consumption runs between 220 and 250 ppm. Tests were conducted successfully on pre-oxidation, and pH conditioning. Standard bottle roll tests were conducted over 7m composites, quantifying the lime and cyanide consumption. Contact time is identified as a constraint.

TAC 2000 on-line cyanide control is used, backed up by manual free cyanide titrations. A Cynoprobe is installed on tails and measures free and WAD CN which improves cyanide management.

*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:*

An Excel spreadsheet based probabilistic water balance for the TSF and for the plant was sighted. Information is included on rainfall, storm events, and solution deposition. Rainfall data is collected daily on the TSF and combined with local rainfall measurements. Historical rainfall data is available from 1932. The water balance has modelled the various rainfall events and the total return water pond capacities, including the operating levels, is sufficient to prevent overtopping in case of power failures during the rainfall events. Annual TSF audit considers the stability analyses, and determines the pool level operating parameters.

*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 WAD CN values of samples taken at the tipping point from 17 Jun 2009 to 4 March 2010 averaged 36.5 ppm with some outliers present, due to variation in the ore treated characteristics. (These were mainly caused by commissioning issues when the monitoring equipment was first installed plus a few minor instrument breakdowns.) 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. No 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 direct discharge to surface water, under normal conditions exist. The abnormal event environmental procedure requires additional sampling in case of any overflows. The B dam feeding the overflow had WAD CN values from April 2009 to March 2010 which averaged 0.03 mg/l.



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*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*

Under drains are installed on no 1 and 3 dams and the dams are equipped with cut off trenches and spillage paddocks at the toe of the walls. Boreholes are in place and are sampled and analysed for WAD cyanide. Beneficial uses of the groundwater included farming, but due to the poor quality of the water, the mine provides the areas with fresh potable water from the local water utility, Sedibeng Water. The mine uses the Department of Water Affairs standard for groundwater which is 0.5ppm free cyanide. Borehole samples since April 2009 indicate no levels exceeding 0.5ppm 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 cyanide storage tanks and the CIL tanks are placed inside bund areas. The old leach tanks are used for additional leaching and residue tanks and are contained in bunds. Slurry tanks are placed on steel legs and plinths over concrete floors. All bunds are equipped with sumps and spillage pumps, returning spillage to the process. Cyanide tanks and pipelines are manufactured from materials compatible with cyanide and high pH conditions. Pipelines inside the plant run over concreted and tarred areas. Reagent strength pipelines run across concreted areas.

Certain pipelines are rubber lined (from the plant to Brand D Dam) and some critical bends are rubber lined to reduce the risk of leaks into unlined soils. Operational drive-by inspections are conducted to detect any leaks. Pipe thickness monitoring to reduce risk of pipe failure is conducted and all new pipes installed are concrete-lined. The ring main feed pipes of the TSF are placed inside the TSF and the feed lines to the TSF have secondary containment. Drive by inspections are conducted by the TSF contractors, ECMP (daily), Mine maintenance staff (daily) and Protea Security (shiftly). No pipelines pose 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 records for the cyanide facilities were available. An inspection was conducted by a Civil Engineer whose report identified critical areas (within 12 months) for repairs as well as normal repair (within 24 months) and additional maintenance items. A subsequent over-inspection was conducted by the engineer who concluded that, "...a definite effort was made to address the major concerns from the previous report .... there is still outstanding work to be done although none of it can be described as emergency repair work." Annual TSF engineering audit reports did not identify stability or freeboard issues.

*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. There are no discharges to surface water but boreholes are in place up and down stream of the plant. Surface and borehole sampling is done monthly and wildlife is monitored daily on the TSF for any mortalities and the Mine Environmental Department monitors for wildlife mortalities on a monthly basis.

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



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*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 Saaiploas Plant Cyanide Decommissioning Plan and procedure is in place to ensure that planning and costing adequately covers cyanide decommissioning and closure. An implementation plan forms a part of the decommissioning plan. The decommissioning plan and procedure are 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 mine closure costs include specific line item funding for cyanide decommissioning. Closure cost estimates are updated on an annual basis as per legal requirement. A Trust Fund for the Harmony Freegold joint venture is in place and current and is established by legal requirement.

**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 72 Operational and Engineering procedures covering cyanide equipment, supported by TSF contractor, ECMP's, safety health and environmental system map which includes a SHE system manual covering policies, planning, implementation and operation, checking and corrective action, and management review and auditing. The ECMP procedure file has 45 ECMP operational procedures in place. Routine daily, weekly, monthly, quarterly and annual inspection reports, legal inspections, and checklists were sampled to check the effectiveness of systems and ensure that proactive and reactive management takes place. The plant maintenance and inspection schedule includes preventative maintenance inspections on cyanide critical equipment. Site procedures were checked and appropriate pre-work inspections and PPE requirements were verified as included in all procedures.

No scenario exists where the operation will be temporarily stopped due to water imbalances as the plant is equipped with thickeners and sufficient surge capacity to maintain the balance.

A change management procedure covering health, safety and environment is in place and operational. Worker inputs are through worker involvement and discussion in risk assessments, daily toolbox meetings, Safety Representatives meetings, and monthly workforce safety meetings.

*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 controls pH between 10.5 and 11.5. An Instruction book used to communicate process parameters. Witwatersrand ores are normally treated for gold leaching at a minimum pH of 10.5 to prevent HCN formation. A procedure, In the event of low pH, is in place for abnormal circumstances.

Three portable personal HCN PAC7000 monitors are in use. Fixed monitors are in use at the residue tank, mass flow (cyanide dosing point) and cyanide storage tanks. The outcome of hot spot surveys was used to determine the areas where personal or fixed monitors should be used. Calibration records were sighted.

Safety showers are at the offloading area (2) leach (1) dosing (2) and lime plant (2). The use of dry powder fire extinguishers confirmed during site inspections. Fire extinguishers services are outsourced and cyanide offloading showers are checked daily and before offloading, with other safety shower inspections by the cyanide offloader being undertaken as per checklist sighted.

The plant uses colour coding for reagent strength cyanide lines and other lines and labelling was observed. Slurry lines are labelled at strategic positions. The annual Induction training covers colour coding. Colour coding is displayed in the plant. Eating and drinking is only allowed in designated areas and the annual training induction covers this rule. Signed no eating / drinking / open flame /smoking signage at cyanide offloading area. Signage observed at entrance to cyanide dosing point, top of CIL and residue, specifying HCN gas warning levels. 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:*

Water, medical oxygen, first aid kits, stretchers are available and antidote kits (stored in a fridge) are available in the first aid room. A cyanide emergency alarm is installed at offloading, a man down alarm installed at dosing point, and all staff are issued with radios which are used for emergency communication.

In terms of the Emergency Response Plan, the cyanide first aid room is available on site with each shift trained as cyanide emergency response teams. The cyanide equipment is regularly checked and tested and mock drills are held regularly on site.

The Harmony Ernest Oppenheimer Mine Hospital was confirmed to be able to treat cyanide emergencies and Hospital staff is given cyanide awareness training by the Harmony No 1 Plant training department annually. Emergency exercises are conducted 6 monthly from the plant to the hospital and additional cyanide drill training is done monthly and documented. Netcare 911 is the contracted ambulance service undertaking patient transport.

**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**



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**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 developed 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 is involved in the Emergency Response Plan process through safety meetings, shift meetings, training and emergency drills. 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.

*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. There is no immediate risk to health, safety or environment as the existing on the job training ensures cyanide



competency. 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.*

**X in full compliance with**

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

*Basis for this Finding/Deficiencies Identified:*

All plant personnel are trained in cyanide releases. The cyanide emergency team is trained in cyanide releases and takes part in cyanide emergency drills and exercises. Cyanide section employees, cyanide specialist, maintenance staff and emergency personnel are trained in cyanide decontamination and cyanide first aid. A specific cyanide emergency response team is identified and trained in cyanide emergencies through participating in emergency drills. All other cyanide section members receive the basic cyanide awareness and 1st aid training. Periodic mock drills are undertaken and training personnel attend these drills and formally evaluate response and performance. Trainers are present at all mock drills. A post drill workshop is held following the drills, which also includes the identification of training deficiencies and review of the training material. The Plant Safety Officer follows up on recommendations of the drill report, confirmed that lessons of the drills are noted and considered in the response planning, including refresher training.

**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:*

Communications from community are to the control room who will log it in the shift report where it will be discussed in the morning meeting meeting. if the matter is serious, contact will be made with the standby official. Plant contact numbers are distributed during stakeholder meetings.

The Harmony Community communication file includes Presentations - 8 - (common and site specific contents) which is given at stakeholder meetings. Evaluation forms to measure the response to the meeting are completed are show a positive response. Meetings were held with : farmers, cattle owners, council members, schools. In the village, posters were put up, as well as at schools. The opportunity to raise concerns was given during the meetings and questions from the presentations asked by the attendees specific to Saaiplaas Plant included a water query. Schools requested further presentations. The general meeting materials of June (Management, local authorities, emergency services, councillors, farmers, co-operations) and August 2009 follow up meetings were sighted. SASOL was also present at some of the meetings. Issues raised there include cyanide in return water dams, availability of cyanide information on website, and "Is cyanide pumped in reservoir?". Appreciation was expressed by attendees on the information presented and a request for regular meetings was made.

*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:*

Communications from community are to the control room who will log it in the shift report where it will be discussed in the morning meeting meeting. if the matter is serious, contact will be made with the standby official. Plant contact numbers are distributed during stakeholder meetings.

The Harmony Community communication file includes Presentations - 8 - (common and site specific contents) which is given at stakeholder meetings. Evaluation forms to measure the response to the meeting are completed are show a positive response. Meetings were held with : farmers, cattle owners, council members, schools. In the village, posters were put up, as well as at schools. The opportunity to raise concerns was given during the meetings and questions from the presentations asked by the attendees specific to Saaiplaas Plant included a water query. Schools requested further presentations. The general meeting materials of June (Management, local authorities, emergency services, councillors, farmers, co-operations) and August 2009 follow up meetings were sighted. SASOL was also present at some of the meetings. Issues raised there include cyanide in return water dams, availability of cyanide information on

website, and “Is cyanide pumped in reservoir?”. Appreciation was expressed by attendees on the information presented and a request for regular meetings was made.

*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:*

Posters are used to communicate cyanide issues and fliers have also been developed which explain cyanide and its uses. Owing to literacy problems, most of the cyanide presentations have to be given verbally in the predominant local languages of Sotho and Xhosa. 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 SiLog, 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.