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## **FINAL COMPLETION REPORT**

### **Harmony Kusasaletu (formerly Elandsrand) Gold Plant**

#### **Introduction**

This Final Completion Report presents the evidence to support the successful implementation of the Corrective Action Plan to correct the deficiencies identified in the ICMI certification audit of Harmony Kusasaletu Gold Plant, held from 18<sup>th</sup> – 22<sup>nd</sup> January 2010.

#### **Corrective Action Plan - 1**

**Principle 4 – Operations:** manage cyanide process solutions and waste streams to protect human health and the environment

**Operations Practice 4.1** Implement management and operating systems designed to protect human health and the environment including contingency planning and inspection and preventative maintenance procedures

#### **Deficiencies**

- The plant is in the process of implementing a Computerised CMMIS Planned Maintenance System (PMS) system and has implemented a spreadsheet-based, PMS from October 2009. Although the cyanide plant maintenance and inspection schedule covering critical cyanide equipment was sighted, there were insufficient records to evaluate the effective implementation of the PMS.

#### **Corrective Actions**

- Six months of PMS records and associated documentation to illustrate the sustainability and operational implementation of the PMS.

#### **Evidence presented to Auditors**

Evidence sighted by the auditors to confirm the corrective actions have been implemented effectively:-

- Six months of sampled records which include scheduled maintenance inspections, equipment histories, linked job card records, inspection schedules, demonstrating the operational and continuity status of the PMS.



## **Corrective Action Plan - 2**

**Principle 4 – Operations:** manage cyanide process solutions and waste streams to protect human health and the environment

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

### **Deficiencies**

- 4.7.1 The Leach tanks are located on a hill and drain down the slope. One small section of the bund containment at the top section, affecting one tank, has no containment bund for a section of approximately five metres.
- 4.7.2 Owing to limitations of containment capacities due to historic legacy issues, containment capacities have been linked and drain via a trench system to an emergency spillage dam. Some repairs are required to certain sections of the trench to achieve an effective seal. It would appear, visually and anecdotally, that the capacity is sufficient to meet Code volume requirements. However, the formal measurements and calculations have not been completed to confirm adequate containment capacity.
- 4.7.5 TSF tailings lines are old and need to be replaced and are not provided with an effective secondary containment.

### **Corrective Actions**

- 4.7.1 Construct a containment bund in the deficient section of the leach tank bund wall.
- 4.7.2 Complete repairs to the cracked sections of the emergency spillage dam trench system.
- 4.7.2 Complete measurements and calculations which illustrate that the emergency spillage dam has sufficient capacity to meet Code volume containment requirements.
- 4.7.5 A project plan has been developed, in conjunction with the TSF expansion and replacement strategy, to move the pipeline running next to the TSF to be running onto the TSF which would be an effective secondary containment.

### **Evidence presented to Auditors**

Evidence sighted by the auditors to confirm the corrective actions have been implemented effectively:-

- 4.7.1 Photographic proof that the deficient containment bund section has been corrected and now ensures appropriate containment.



- 4.7.2 Photographic proof that the repairs to the damaged sections of the emergency spillage dam trench system have been successfully completed.
- 4.7.2 Survey results which demonstrate that the emergency spillage dam has sufficient capacity 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.
- 4.7.5 General Arrangement drawing showing the re-routed pipeline.

### **Corrective Action Plan - 3**

**Principle 8 – Training:** Train workers and emergency response personnel to manage cyanide in a safe and environmentally protective manner.

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

### **Deficiencies**

- The whole Harmony Group training system was changed from a historically less formal training structure to a formal structured and well planned system, referencing national unit standards relating to metallurgy. Although the old system ensured competency, the process of training the staff in the revised standards and procedures which are Cyanide Code compliant, is in its early stages of retraining. There are currently insufficient records and follow up observations to demonstrate the competency of the staff in the new systems and procedures.

### **Corrective Actions**

- The Harmony Group Training structures, along with the various plant trainers, have planned to complete the training and the appropriate planned task observations within the next eight months.

### **Evidence presented to Auditors**

Evidence sighted by the auditors to confirm the corrective actions have been implemented effectively:-

- Signed training session attendance registers of various plant departments indicating training on the new procedures.
- The Kusasaletu Plant Training Matrix indicating the new procedures and the various dates that individual employees undertook training in the new procedures.
- Samples of competency assessments and Planned Task Observations (PTOs) of individuals after having undertaken training in the new procedures.



**Conclusion**

The Lead Auditor, following discussions within the audit team, is satisfied that the corrective actions taken, meet the requirements of the corrective action plans and thus enable substantial compliance in these operations and production practices to be revised to Full Compliance.



**Arend Hoogervorst**  
**Lead Auditor**

**Date: 30<sup>th</sup> November 2010**

