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## **SUBSTANTIAL COMPLIANCE CORRECTIVE ACTION PLAN**

### **HARMONY TARGET GOLD PLANT** **SOUTH AFRICA**

#### **Introduction**

One of the components of auditing the ICMI (International Cyanide Management Institute) Cyanide Code is the development of a Corrective Action Plan for those parts of the audit findings that have been found to be in substantial compliance or non-compliant and require focused responses to take the site back to full compliance.

In the case of Corrective Action Plans for Substantial Compliance findings, ICMI requirements are that the corrective actions must be completed within one year of the posting of the Summary Audit Report on the Cyanide Code website.

#### **Corrective Action Plan**

**Principle 4 – OPERATIONS - Manage cyanide process solutions and waste streams to protect human health and the environment.**

**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.**

#### **4.8.5**

Where there is no available quality control and quality assurance documentation or as-built certification for cyanide facility construction, has an appropriately qualified person inspected those facilities and issued a report (“fit-for-purpose”) concluding that their continued operation within established parameters will protect against cyanide exposures and releases?

#### **Background**

Harmony acquired full ownership of Target mine and plant in May 2004. Target Gold Plant and its associated mine have been operating under different owners since the mine first commenced operations in 1995. Design and Quality Assurance/Quality Control documentation are not readily available. The Engineer of Record, engineering and environmental consultancy, Jones and Wagener, have been closely involved in advising on deposition strategies and TSF (Tailings Storage Facility) development for safe and environmentally sound TSF functioning since Harmony took over.

The Gold Plant has been depositing its tailings onto TSF1 and TSF2 since the recommissioning of the adjoining Lorraine Gold Mine. Problems began when seepage was noted in the walls of TSF1. The Engineer of Record stopped Target Plant from depositing tailings onto TSF1. Deposition continued on TSF2 until Jones and Wagener

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stopped deposition onto TSF2 due to a lower factor of safety and seepage. In the absence of any alternative deposition sites and to keep the mine and Plant operating, deposition continued on TSF 2 and restarted on TSF 1, against the advice of the Engineer of Record.

Jones and Wagener put forward a list of recommendations to mitigate the problems on the two TSFs. Completion of these recommendations was necessary before Jones and Wagener would support the recommencement of tailings deposition on TSF1 and TSF2. After investigations, review and negotiations, it was agreed that deposition on TSF1 would stop, and repair work and additional buttressing would commence. Deposition would continue only on the low points of TSF2, provided there was no reoccurrence of any seepage.

### **Deficiencies**

The Engineer of Record is not prepared to issue “fit-for-purpose” confirmation for TSF1 until the completion of the mitigating recommendations, including additional reinforcing rock buttressing work. The additional work and completion of the necessary safety work on TSF1 is expected to take less than 12 months.

### **Corrective Actions**

- In the short term, The Engineer of Record is prepared to sanction temporary limited deposition in the low areas of TSF2 whilst the repairs are undertaken on TSF1. These repairs are expected to be completed in less than 12 months. Once complete, the Engineer of Record will review the work, undertake stability studies and associated safety checks, and, if the results are positive, will re-sanction the “fit-for-purpose” tailings deposition on TSF1.
- Once deposition recommences on TSF1, deposition on TSF2 will cease, and repairs will commence on TSF2 to make allowance for backup deposition, in the event of problems with TSF 1.
- The long-term solution to stability and seepage problems on TSFs 1 and 2 will be to move tailings deposition to the “Freddies” TSF, a short distance away and across the R30 road from the current TSFs location. The switch to using the Freddies TSF for the remaining life of mine (LOM) of Target Mine will take approximately 3 years. This includes safety and stability tests on the TSF, and planning, construction and modification of pipework to move the tailings from the Target Gold Plant to the Freddies TSF.

### **Evidence for Auditors**

- To manage the interim risk of deposition on the low areas of TSF2, the auditors need to see written confirmation from the Engineer of Record that they give “fit-for-purpose” approval to the plan of short-term deposition of tailings on the low areas of TSF2. This will be until the repair and buttressing work on TSF1 is complete to the satisfaction of the Engineer of Record, in less than 12 months.
- Before deposition can re-commence on TSF1, the auditors require written confirmation that the Engineers of Record are satisfied that the repairs and buttressing on TSF1 are complete and the TSF can be declared “fit-for-purpose” to recommence to receive tailings.

**Completion Date: - within one year of the posting of the Summary Audit Report on the Cyanide Code website.**



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