# CORRECTIVE ACTION PLANS COMPLETION REPORT

# SASOL POLYMERS CHEMICAL BUSINESS, CYANIDE PLANTS 1 & 2 & STORAGE AREAS

# INTRODUCTION

This Corrective Action Plan Completion Report summarises a review of the evidence presented to correct the deficiencies identified in the certification audit of the above plants held in November 2006. It also includes the Lead Auditor's conclusions with respect to reassessing the Substantial Compliance Finding to a Full Compliance Finding.

# **CORRECTIVE ACTION PLANS**

### **CORRECTIVE ACTION PLAN 1**

**Principle 3 – Monitoring:** Ensure that process controls are protective of the environment.

**Production Practice 3.1** Conduct Environmental Monitoring to confirm that planned or unplanned releases of cyanide do not result in adverse impacts.

Elements 1, 3, 4, 6 and 7 (Surface and Groundwater CN monitoring)

#### **Deficiencies**

- Auditor concerns existed with respect to the quality of analytical data and the roles and responsibilities of on-site clients and the service provider responsible for the collection and interpretation of water monitoring data.
- Only ad hoc CN WAD monitoring had taken place prior to 7 January 2007 and reliance was made on the accuracy of CN Total analysis.
- Due to an oversight, no cyanide (including WAD) monitoring had been included in the routine groundwater monitoring schedule.
- Cyanide had not been included in the routine 6 monthly borehole groundwater sampling activity.

## **Evidence presented to auditors**

• The new method for CN Total analysis at low levels (Analytical Method Sasol 6023, Rev 3 of Dec 2006) has been applied since the ICMI compliance audit to assess the daily outfall quality. Meetings and discussions on the merits of the old system preceded the selection of the new methodology now applied.

8<sup>th</sup> September 2007

Signature of Lead Auditor

- The analysis schedule, which governs the sampling frequency, locations and scope was revised in February 2007 (Analysis Schedule: Sasol Infrachem Water & Waste: Effluent Control, Midland Revision 7). It includes specifically the outfall (daily on-property sampling rather than off-property) and the locations T3 to T6 (monthly). The cyanide parameters to be monitored are CN free and CN Total. Criteria given elsewhere are ICMI requirements (0.5 ppm CN WAD) and DWAF limits (now 0.2 ppm CN Total). Document Title: Sasol Infrachem Water & Waste: Effluent Control, Midlands (Rev 6, 2007).
- An internal audit has been conducted by P. Hall. The audit covered the sampling and analytical procedures as well as the evaluation of obtained data. The entire system was rated compliant to both ICMI and DWAF requirements. The audit report, entitled "Sampling And Analysis Compliance To ICMI Code Monitoring Requirements of Sasol Midland Site Effluent Reticulation System for Chemicals Cyanide Business at Sasol Midland Site and dated 20.07.2007, was sighted and reviewed.
- A meeting was held on 3 August 2007 in the Sasol Environmental Centre Conference Room to discuss the Midland Site Borehole Monitoring Results for the Analysis of WAD & Total Cyanide and was attended by production and environmental management staff. The outfall monitoring was not part of the discussions, but the current positive compliance situation had been communicated to production staff. (Minutes of the meeting were sighted.)
- The spread sheet based "DWAF report Midland 2006-2007 (Sasol Midland Site Effluent Discharge To Taaibos Spruit)" was furnished and did contain the monitoring data for CN Total since end of November 2006. The data provided (and supported by several sets of external analysis conducted at MINTEK laboratories) confirms the compliance of the discharge to the ICMI requirements (0.5 ppm CN WAD), the old DWAF requirements (0.5 ppm CN Total) and the new DWAF requirements (0.2 ppm CN Total).
- Several sets of down stream analysis (Taaibos Spruit) have been supplied (REP Sas Inf 061221, REP Sas 070726), conducted by MINTEK laboratories. The criterion used instead of CN free was CN WAD (method is accredited according to ISO 17025), but despite the more conservative criterion used, no evidence was found, to date, of the site exceeding the 22 ppb level after discharge in the post mixing zone.
- The results of emergency drills and exercises held on the 11<sup>th</sup> January and 30<sup>th</sup> July 2007 were sighted and reviewed. These were held to test plant related systems, to see how the plant responded to a cyanide-related environmental emergency situation and to evaluate the response of the Sasol Complex's Water and Waste Department, Fire Brigade and Environmental Department.

#### Conclusion

The Lead Auditor, following discussions with the audit team, is satisfied that the corrective actions taken meet the requirements of the corrective action plans and enable substantial compliance in this Production Practice to be revised to Full Compliance.

### **Corrective Action Plan 2**

**Principle 5 – Emergency Response**: Protect communities and the environment through the development of emergency response strategies and capabilities

**Production Practice 5.2** Involve site personnel and stakeholders in the planning process

**Element 2** Has the facility made potentially affected communities aware of the nature of their risks associated with accidental cyanide release, and consulted with them directly or through community representatives regarding what communications and response actions are appropriate?

#### **Deficiencies**

• Three prominent community members (nominated by the site) were interviewed and maintained they had no knowledge that cyanide was manufactured and transported from the site.

### **Evidence presented to Auditors**

The Sasolburg Community Working Group (SCWG) visited the Sasol Cyanide Plants on the 27<sup>th</sup> June 2007. An agenda for the visit was sighted which indicated that the visit included explanations of plant processes, plant hazards and risks, a site tour and the opportunity for attendees to ask questions and engage in discussion. An attendance register was also sighted which indicated that 22 persons from the surrounding community and other Sasol Complex sites and operations had attended. Minutes of the Working Group sighted indicated that a feedback on the visit would be presented at the SCWG meeting to be held on 29<sup>th</sup> August 2007.

#### Conclusion

The Lead Auditor, following discussions with the audit team, is satisfied that the corrective actions taken meet the requirements of the corrective action plans and thus enable substantial compliance in this Production Practice to be revised to Full Compliance.

signature notarised/certified

Arend Hoogervorst Lead Auditor

8<sup>th</sup> September 2007

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