



Environmental Impact Assessment for the Ethylene Purification Unit (EPU5) Facility, South Africa

Project Summary:

Sasol Synfuels based in Secunda, have increasing volumes of C2 rich gas, from an existing process, which is a mixture of ethylene and ethane. As a result, their C2 separation facility is exceeding capacity and will require expansion. Monomers propose to construct a new separation facility which will be called the EPU5 Facility, in Sasolburg within the Free State Province, to process this additional C2 rich gas.

The EPU5 Facility will receive C2 rich gas from Secunda via an existing 12 inch pipeline and produce polymer grade ethylene. The EPU5 Facility will tie in with the existing utility infrastructure within the Sasol One Complex as well as the existing Monomer facility on the site.

The Client's Challenge:

Sasol Synfuels (the Client) challenge is to implement the EMP by training the employees, of the EPU5 team on their management plans. This will help set management objectives and identify priorities and strategies for achieving these. The requirements will be part of an initiative to avoid incidents from taking place.

Furthermore, the Client is to ensure a safe and healthy working environment for their employees during the Construction and Operational Phases of the project.

Our Work:

WSP was appointed by Sasol Chemical Industries (Pty) Ltd, Sasol Polymers, Monomers Division to carry out the EIA and project management for the proposed EPU5 Facility. The client provided details on the project background, descriptions and processes for the facility as well as project alternatives and a motivation as to the significance of the proposed facility.

During the EIA, the impacts of the proposed project on the biophysical and socio-economic environments were assessed. From the assessment, it was evident that the biophysical impacts of the proposed project were limited to the Construction Phase impacts such as potential surface and groundwater and soil contamination, associated with incidents and the Contractor Lay-down Area disturbance.

The Operational Phase impacts were limited and would arise should an incident or spillage occur. These incidents would be associated with the handling, transportation, storage and disposal of waste, hazardous and chemical materials. From an air quality perspective, no CO₂ will be released during the Operational Phase. Furthermore, it was evident that the socio-economic impacts of the proposed project represented positive impacts, including one significant positive impact being job creation associated with the Construction and Operational Phases.

The final decommissioning, rehabilitation and closure of the project will need to be undertaken in accordance with environmental protection measures as well as the rehabilitation and closure planning activities for the entire Sasol One Complex. Overall, no significant negative environmental impacts were identified for the proposed project and all potential impacts will be mitigated through the implementation of the recommended mitigation and management measures outlined in the EMP Report.

The Outcome:

The assessment of the biophysical environment revealed that there were no environmental fatal flaws and no significant negative impacts associated with the proposed project should mitigation and management measures be implemented. As a result, WSP were of the opinion that should the necessary mitigation and management measures be implemented to ensure sound environmental performance, the proposed EPU5 Facility can proceed. Consequently, the Free State Department of Tourism, Environment and Economic Affairs, the leading Authority for the project granted a positive Record of Decision on 19 January 2009.

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