

COMPENDIUM OF ENVIRONMENTAL MANAGEMENT PLANS FOR ESKOM'S OPEN CYCLE GAS TURBINE POWER PLANT AT MOSSEL BAY

Submitted in draft form as part of the Final EIR

April 2007

This compendium comprises the following documents:

- a) A signed copy of Eskom's Safety, Health and Environment (SHE) Policy.
- b) Eskom's Guideline Environmental Procedure: Environmental Management Programme.
- c) Operational Phase EMP
- d) Standard Specification EMP.
- e) Project Specification EMP: Construction Phase.
- f) Substation Construction and Operational EMP.

1. Legal Requirements

- 1.1 Regulation 32 of GN No. R385, of 23 April 2006, states that an environmental impact assessment report must contain, *inter alia*, a draft Environmental Management Plan (EMP) that complies with regulation 34.
- 1.2 Regulation 34 states that "*a draft environmental management plan must include –*
 - (a) *details of –*
 - (i) *the person who prepared the environmental management plan; and*
 - (ii) *the expertise of that person to prepare an environmental management plan;*
 - (b) *information on any proposed management or mitigation measures that will be taken to address the environmental impacts that have been identified in a report contemplated by these Regulations, including environmental impacts or objectives in respect of –*
 - (i) *planning and design;*
 - (ii) *pre-construction and construction activities;*
 - (iii) *operation or undertaking of the activity;*
 - (iv) *rehabilitation of the environment; and*
 - (v) *closure, where relevant.*
 - (c) *a detailed description of the aspects of the activity that are covered by the draft environmental management plan;*
 - (d) *an identification of the persons who will be responsible for the implementation of the measures contemplated in paragraph (b);*
 - (e) *where appropriate, time periods within which the measures contemplated in the draft environmental management plan must be implemented; and*
 - (f) *proposed mechanisms for monitoring compliance with the environmental management plan and reporting thereon.*"
- 1.3 As this application forms part of an already authorised activity, an EMP, which has been authorised by the competent authority, is already in place. However, given that the EMP forms part of an EMS (ISO14001), and as such is being continually updated, and the fact that the regulations governing EIA have been replaced, the requirements for an EMP are now more stringent than before. A Guideline for Environmental Management Plans (DEA&DP, June 2005) has been also been published. Due to this, further information based on the existing EMP and EMS, is now submitted.

2. Overview of the Proposed Activity and the Local Context

An overview of the proposed activity and the local context has been provided in the Scoping Report, and repeated in the EIR, of which this is an annexure, and so will not be repeated here.

3. Summary of Impacts Associated with the Proposed Activity

3.1 The following potential operational phase impacts on the biophysical environment were identified during the EIA process;

- Impact on flora;
- Impact on fauna and avifauna;
- Impact on air quality;
- Impact on water availability;
- Effluent management issues; and
- Impact on geology and drainage.

3.2 The following potential operational phase impacts on the socio-economic environment were identified during the EIA process:

- Visual impact;
- Impact on heritage resources;
- Impact on traffic flow;
- Impact on ambient noise quality;
- Potential risks to human health;
- Impact on the existing infrastructure; and
- Impact on socio-economic conditions.

3.3 The following potential impacts on the biophysical and socio-economic environment during the construction phase were identified during the EIA process:

- Impact on flora;
- Impact on fauna;
- Erosion and land degradation;
- Noise disturbances to adjacent landowners;
- Waste and litter pollution;
- Water pollution and conservation;
- Dust management;
- Traffic and access disturbances; and
- Safety risks.

4. Project Proponent's Environmental Management Policies and Commitments

The Eskom Director's Annual Report for 2006 has, *inter alia*, the following to say about their Environmental Management System:

"The Eskom occupational hygiene, safety and environmental policy commits the business to the implementation of appropriate management systems to address environment, safety and occupational hygiene issues to minimise risk and ensure continual improvement. Certification to the ISO 14001 standard continues to be implemented in Eskom, with the following divisions and subsidiaries now certified:

- *Corporate divisions*
 - *Corporate sustainability*
 - *Corporate technical audit*
- *Transmission division*
- *Rotek Engineering (Pty) Limited*
- *Roshcon (Pty) Limited*

Where environmental risks have been identified in other parts of Eskom, self-evaluation audits and management reviews are undertaken to determine whether the environmental management system conforms to planned arrangements and has been implemented and maintained in terms of ISO 14001. As an example, the Generation division maintained compliance with the standard in 2005 through external audits.

Policy principles of Eskom's occupational hygiene, safety and environmental policy include:

- *This policy will apply wherever Eskom operations exist*
- *Eskom will ensure that no operating condition, or urgency of service, can justify endangering the life of anyone or causing injury and will strive to prevent illness*
- *Eskom will work with selected suppliers, customers and contractors to integrate safety, health and environment issues into their operations*
- *Contractors working under the supervision of Eskom or on Eskom premises will comply with this policy.*

Eskom, as a provider of energy and associated services, will:

- *Establish appropriate management systems to address environment, safety and occupational health issues to minimise risk and ensure continual improvement. This will include preventing pollution and environmental degradation, where economically viable and sustainable*
- *Comply with all legislative and policy requirements and, in the absence of appropriate principles, set standards to meet the objectives of this policy*
- *Promote open communication on safety, health and environment issues with employees and other stakeholders*
- *Educate, train, motivate and develop employees on occupational health, safety and environment issues*
- *Provide and maintain a healthy and safe work environment and protect individuals against risk to occupational health and safety arising out of Eskom's business*
- *Contribute to sustainable development through efficient resource use, and efficient production, distribution and use of energy."*

In support of these statements, a copy of Eskom's Safety, Health and Environment (SHE) Policy, signed by the CEO and Directors, has been attached as Addendum A.

5. Institutional Arrangements: Roles and Responsibilities

5.1 Functions and Responsibilities: Construction Phase of the Mossel Bay OCGT.

Formal responsibilities are necessary to ensure that key procedures are executed. Specific responsibilities of the Project Manager, Site Manager and Environmental Officer for the construction phase of this project are as detailed below.

5.1.1 The Project Manager will:

- Ensure of all specifications, legal constraints and Eskom standards and procedures pertaining to the project specifically with regards to the environment are highlighted to Eskom and its Contractor(s) so that they are aware of these.
- Ensure that Eskom and its Contractor(s) are made aware of all stipulations within the EMP.
- Ensure that the EMP is correctly implemented throughout the project by means of site inspections and meetings. This will be documented as part of the site meeting minutes.
- Be fully conversant with the Environmental Impact Assessment for the project, the conditions of the RoD (once issued), and all relevant environmental legislation.

5.1.2 The Site Manager (Eskom's Representative) will:

- Be fully knowledgeable with the contents of the Environmental Impact Assessment.
- Be fully knowledgeable with the contents and conditions of the RoD.
- Be fully knowledgeable with the contents of the Environmental Management Plan.
- Be fully knowledgeable with the contents of all relevant environmental legislation and Eskom environmental policies and procedures, and ensure compliance with these.
- Have overall responsibility of the EMP and its proper implementation .
- Conduct audits to ensure compliance with the EMP.
- Ensure there is communication with the Project Manager or his delegate, the Environmental Officer and the relevant discipline Engineers on matters concerning the environment.
- Ensure that no actions are taken which will harm or may indirectly cause harm to the environment, and take steps to prevent pollution on the site.
- Confine activities to the demarcated construction site.

5.1.3 The Environmental Control Officer (ECO) will:

- Be fully knowledgeable with the contents with the Environmental Impact Assessment.
- Be fully knowledgeable with the contents with the conditions of the RoD.
- Be fully knowledgeable with the contents with the Environmental Management Plan.
- Be fully knowledgeable with the contents with all relevant environmental legislation and Eskom environmental policies and procedures, and ensure compliance with them.
- Ensure that the contents of this document are communicated to the Contractor site staff and that the Project Manager and Contractor are made aware of the contents through discussion.
- Ensure that compliance with the EMP is monitored through regular and comprehensive inspections of the site and surrounding areas.
- Ensure that if the EMP conditions or specifications are not followed then appropriate measures are undertaken to address this.
- Monitoring and verification must be implemented to ensure that environmental impacts are kept to a minimum, as far as possible.
- Ensure that the site manager has input into the review and acceptance of construction methods.
- Ensure that activities on site comply with all relevant environmental legislation.
- Ensure that a removal is ordered of any person(s) and/or equipment responsible for any contravention of the specifications of the EMP.

- Ensure that the compilation of progress reports for submission to the Project Manager, with input from the Site Manager, takes place on a regular basis, including a final post-construction audit.
- Ensure that there is communication with the Site Manager regarding the monitoring of the site.
- Ensure that any non-compliance or remedial measures that need to be applied, are reported.

5.1.4 Contractors and Service Providers:

All contractors (including subcontractors and staff) and service providers are ultimately responsible for:

- Ensuring adherence to the environmental management specifications;
- Ensuring that Methods Statements are submitted to the ECO for approval before any work is undertaken. Any lack of adherence to this will be considered as non-compliance to the specifications of the EMP;
- Ensuring that any instructions issued by the Engineer/Project Manager on the advice of the ECO are adhered to;
- Ensuring that there must be communication tabled in the form of a report at each site meeting, which will document all incidents that have occurred during the period before the site meeting;
- Ensuring that a register is kept in the site office, which lists all the transgressions issued by the ECO;
- Ensuring that a register of all public complaints is maintained.
- Ensure that all employees, including those of sub-contractors receive training before the commencement of construction in order that they can constructively contribute to wards the successful implementation of the EMP.

5.2 Functions and Responsibilities: Operational Phase of the Mossel Bay OCGT.

5.2.1 The Generation Environmental Manager will:

- Provide overall assurance to the MD: Generation Division (and hence ultimately the CEO) that environmental issues are appropriately addressed and managed at the various business units (= power stations)
- Develop and implement strategies on various issues such as Environmental management systems, air quality, waste, etc.
- Be responsible for overall consolidation and reporting of environmental performance within the Generation Division
- Liaise on a strategic level with Government and other stakeholders on a range of issues.

5.2.2 The Power Station Manager will:

- Identify and appoint representatives from different departments of the power station. These employees shall be assigned the role of EMP drivers and shall collectively form the EMS management team with the environmental practitioner
- Ensure that adequate resources (human, financial, technology) are made available for the successful implementation and operation of the EMS
- Conduct annual basis reviews of the EMS to evaluate its effectiveness
- Take appropriate action as a result of findings and recommendations in Management reviews and audits.

5.2.3 The Safety, Health and Environment (SHE) Representative/Environmental Officer will:

- Implement an Environmental Management System (EMS) for the power station
- Manage and report on station*s environmental performance
- Conduct internal environmental audits and co-ordinate external environmental audits

- Liaise with statutory bodies such as CAPCO, DWAF and DEAT on environmental performance and other issues
- Conduct environmental training and awareness of the Mossel Bay OCGT Power Station employees
- Compile environmental policies and procedures
- Advise the Mossel Bay OCGT top management on environmental issues
- Liaise with interested and affected parties on environmental issues of common concern.

6. Supporting Documentation

Additional documentation in support of the above, and for completeness of the EMP, is attached hereto as:

Addendum A: A signed copy of Eskom's Safety, Health and Environment (SHE) Policy:

This policy statement provides the executive management's confirmation of Eskom's commitment to sound environmental practice. Compiled by Eskom.

Addendum B: Eskom's Environmental Procedure Guideline: Environmental Management Programme:

This guideline reflects Eskom's proceduralised approach to environmental management, as a programmatic element of their ISO 14001 EMS. As such, it provides an overarching guide for a systematic approach to the various activities that Eskom undertakes. Compiled by Eskom.

Addendum C: Operational Phase EMP:

This EMP for the operation and maintenance of the OCGT plant in Mossel Bay is presently in draft form, to provide an initial indication of the extent and actions of such a plan. While it contains project-specific actions, it will need to be revised once confirmation of final design and operating specifications are available. Derived from a document prepared by Bohlweki and revised by Ninham Shand.

Addendum D: Standard Specification EMP:

This is the generic EMP for construction activities and provides the framework for the project-specific EMP described next. Compiled by Ninham Shand.

Addendum E: Project Specification EMP: Construction Phase:

This is the project-specific EMP that is presently being applied to the construction activities related to the approved OCGT plant. It has been revised since its inception in 2005, as indicated by underlining of new or changed text. It is thus a "living document" and its continued application to the construction activities for the proposed additional units is thus vital. Compiled by Ninham Shand.

Addendum F: Substation Construction and Operational EMP:

This is a generic guideline for contractors undertaking construction activities for substations in particular. It is one of the environmental management programmes of Eskom's ISO 14001 EMS documentation hierarchy. Compiled by Eskom.

Due to the various sources of the supporting documentation described above, an indication of the specific persons and their expertise in compiling such documentation is not provided. Given the proceduralised and formal nature of the documentation, however, it may be assumed that the necessary expertise underpins their compilation.

A detailed responsibility matrix and programme of activities will be compiled once the relevant resources are allocated to the project, contingent on the consideration of the EIR by DEA&DP.

The environmental implications of the decommissioning of the plant is not being attended to in detail at this time. Given the operating life of several decades, and the fact that the approved OCGT plant would be subjected to an EIA for its decommissioning - since it was approved under the Environment Conservation Act (73 of 1989) – adequate attention is sure to be awarded to this matter in due course.
