1 INTRODUCTION

Eskom, as South Africa's public electricity utility, generates, transmits and distributes electricity throughout South Africa. Eskom's principal generation technology is pulverised coal with approximately 90% of its current generating capacity lying in coal-fired power stations. One such power station is the Tutuka Power Station (hereafter referred to as "Tutuka") which is located near Standerton in the Mpumalanga Province and falls within the Lekwa Local Municipality (**Figure 1.1**), which falls within the Gert Sibande District Municipality.

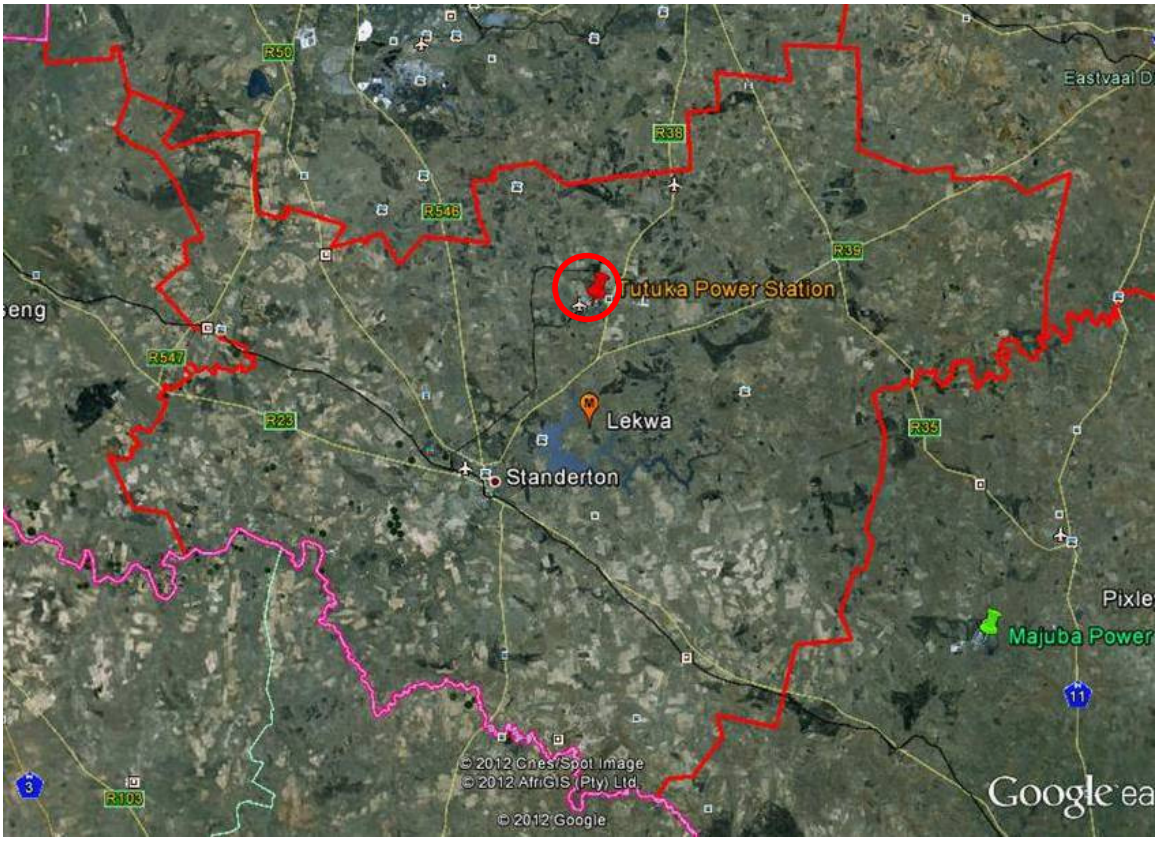

Figure 1.1: Location of Tutuka Power Station within the Lekwa Local Municipality

Eskom Holdings SOC Limited (Eskom) is planning to pro-actively align its continued ashing activities with the requirements of the waste licensing processes, in terms of the National Environmental Management Waste Act, Act 59 of 2008.

In terms of the Environmental Impact Assessment Regulations, Eskom required the services of an independent environmental consultant to conduct the necessary

Environmental Impact Assessment (EIA) process, for obtaining an integrated environmental authorisation from the Competent Authority.

Lidwala was appointed as the Independent Environmental Assessment Practitioner (EAP) and has been commissioned by Eskom to conduct the scope of work, including the EIA, as required by the National Environmental Management Act (No. 107 of 1998) and the National Environmental Management Waste Act (No. 59 of 2008). Details of all the relevant role-players, including the expertise of Lidwala, to carry out the required processes, are included in **Chapter 2** of this document.

1.1 Need and Justification for the Project

Eskom's core business is the generation, transmission and distribution of electricity throughout South Africa. Electricity, by its nature, cannot be stored and must be used as it is generated. Therefore electricity is generated according to supply-demand requirements. The reliable provision of electricity by Eskom is critical to industrial development and other poverty alleviation initiatives in the country.

If Eskom is to meet its mandate and commitment to supply the ever-increasing needs of end-users in South Africa, one of the utility's options is to extend the operational life of its infrastructure for generation capacity and transmission and distribution powerlines.

Ideally, Tutuka Power Station envisages the continuation of dry ash disposal activities over Eskom owned land, which was purchased before the commencement of environmental laws, the Environment Conservation Act, in particular. As part of its planning processes, Eskom developed designs which were approved internally, during this time. With the promulgation of the environmental laws, and the National Environmental Management Waste Act, Act 59 of 2008, in particular, Eskom would like to pro-actively align its continued ashing activities with the requirements of the waste licensing processes. This alignment is being undertaken in line with the requirements of the EIA regulations.

1.2 Project Background

The proposed continuous development is an ash disposal site with the following specifications:

- Capacity of airspace of ~158 million m^3; and
- Ground footprint of ~800 ha is required for the continuous ashing to a total of 2500 ha (Existing & Remaining ash disposal facility, pollution control canals dams and access roads)

This ash disposal facility shall be able to accommodate the ashing requirements of the power station for the next 41 years, to 2055, which is the life of the station.

In terms of the EIA Regulations published in Government Notice R543 of 2 August 2010 in terms of Section 24 (5) of the National Environmental Management Act (Act No. 107 of 1998), certain listed activities as set out in Government Notices R544, R545 and R546 and in GN 921 of the National Environmental Management: Waste Act (NEMWA) require environmental authorisation and waste management license, respectively, before they can proceed.

Eskom has appointed Lidwala as the EAP to manage the application and to undertake environmental studies together with a team of specialists. Through this process Lidwala and the relevant specialists identified and assessed all potential environmental impacts associated with the proposed Project. Comprehensive, independent environmental studies are required to be undertaken in accordance with the EIA Regulations, in order to provide the relevant authorities with sufficient information to make a decision regarding the integrated environmental authorisation applied for.

The environmental studies followed a three-phased approach in accordance with the EIA Regulations published in terms of the EIA Regulations published in Government Notice R543 of 2 August 2010 in terms of Section 24 (5) of the National Environmental Management Act (Act No. 107 of 1998), namely:

- Phase 1: Application phase
- Phase 2: Environmental Scoping Study phase (including a site screening assessment/site selection and the Plan of Study for EIA); and
- Phase 3: Environmental Impact Assessment phase

The Environmental Scoping Study identified potentially feasible sites and/or site combinations, and identified and evaluated potential environmental impacts and issues associated with all aspects of the proposed project. In terms of the EIA Regulations, *feasible and reasonable* alternatives have been discussed within the Scoping Study. This Environmental Impact Assessment phase now evaluates and assesses these impacts in terms of their significance, provides mitigation to those impacts and recommends the most preferred site.

1.3 Summary of the EIA Process

1.3.1 EIA Process

The EIA process is regulated through Regulations published under the Government Notice No. R. 543 and associated guidelines promulgated in terms of Chapter 5 of the National Environmental Management Act (Act 107 of 1998).

The EIA process and Public Participation Process, as legislated in terms of NEMA and NEMWA, is shown diagrammatically in **Figure 1.2**.

1.3.2 Application Phase

The Application Phase consisted of completing the appropriate application form (in this case an integrated application form in terms of NEMA and NEMWA) by the EAP and the proponent as well as the subsequent submission and registration of the Project with the Competent Authority. The Department of Environmental Affairs (DEA) has been confirmed as the Competent Authority, in conjunction with key commenting authorities Department of Water Affairs (DWA), as well as the Mpumalanga Department of Economic Development, Environment and Tourism (MDEDET).

The Application form was submitted to DEA on **20 August 2012**. The EIA reference number allocated to this application is **14/12/16/3/3/3/52**. In addition to the EIA reference number a NEAS Reference number (**DEA/EIA/0001416/2012**) was also allocated**.** These reference numbers are to appear on all official correspondence with the authorities and the public regarding this project.

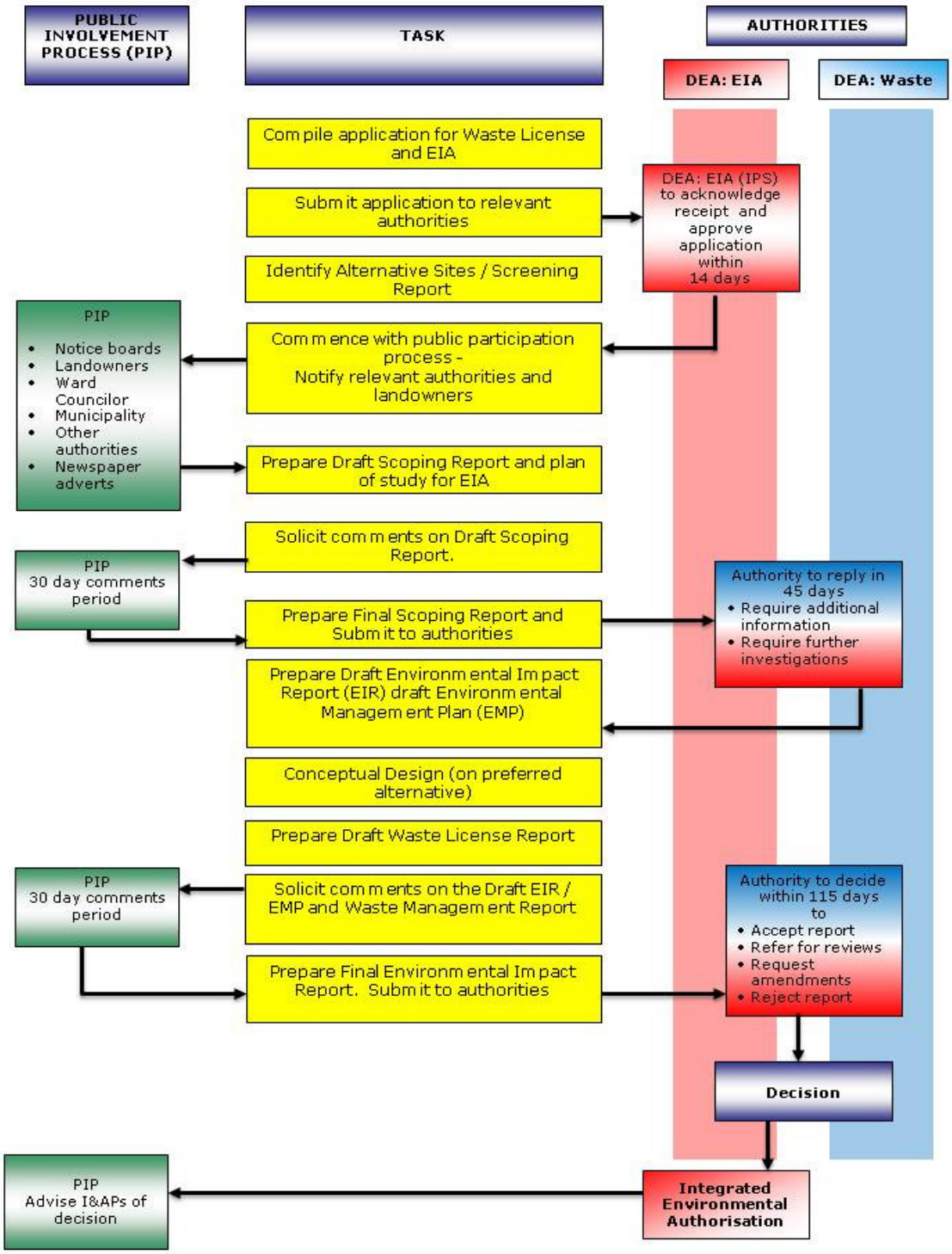

Figure 1.2: Diagrammatic representation of the Environmental Impact Assessment Process for an Integrated Application

1.3.3 Scoping Phase

The scope of an environmental assessment is defined by the range of issues and alternatives to be considered, and the approach towards the assessment that will follow

This phase complied with the requirements of regulations Government Notices R544, R545 of the EIA process. The characteristics of a scoping exercise are as follows:

- allowed an open process that involved the authorities, the proponent, stakeholders and I&APs;
- Feasible and reasonable alternatives were identified and selected for further assessment;
- Important characteristics of the affected environment were identified;
- Significant issues that are to be examined in the assessment procedure were identified; and
- It provided the basis for determining terms of reference for the assessment procedure.

At the end of the Scoping Phase a Scoping Report was compiled. As required by the EIA regulations, a Draft Scoping Report (DSR) was first compiled and availed to the public, which provided the public with an opportunity to comment prior to updating with their comments, finalising and submission of the Final Scoping Report (FSR) to the authorities. The Final Scoping Report was submitted to the authorities on **14 December 2012** together with the Final Plan of Study for Environmental Impact Assessment (POS for EIA). The Final Scoping Report and POS for EIA were accepted by the DEA on **19 March 2013**. The acceptance letter is included in **Appendix A**.

1.3.4 EIA or Assessment Phase

On acceptance of the FSR and PoS EIA by DEA the project proceeded into the detailed EIA or Assessment Phase which involved detailed specialist investigation.

Lidwala produced a Draft Environmental Impact Report (DEIR) after the completion of all the specialist studies. The Draft EIR was subjected to public comment for a period of 40 days. The Draft EIR provided an assessment of all the identified key issues and associated impacts from the Scoping Phase, and also provides proposed mitigation to support the development.

During the EIA phase the Waste License application report was compiled along with the conceptual designs for the preferred site. These reports were also subjected to public review as part of the DEIR.

As key commenting authorities, the DWA and MDEDET provided comments to the EAP on the adequacy of the DEIR, and the EAP will addressed these comments prior to finalising the EIR.

a) Draft Environmental Impact Report

This Draft EIR contained, *inter alia,* the following*:*

- Contact details and expertise of the environmental assessment practitioner undertaking the EIA process;
- A detailed description of the proposed activity;
- A description of the affected environment including a description of the affected properties;
- A description of the ongoing public consultation process;
- A description of the need and desirability of the proposed activity;
- An indication of the methodology used in determining the significance of potential environmental aspects;
- A comparative assessment of the feasible alternatives;
- A summary of the findings and recommendations of any specialist report or specialised processes;
- An assessment of the impacts in terms of nature of the impact, extent, duration, intensity and probability;
- An assessment of cumulative impacts;
- The determination of the significance of the impacts;
- A description of environmental management and mitigation measures;
- A description of assumptions, uncertainties and gaps in knowledge;
- An environmental impacts statement including a summary of the findings and a comparative assessment of the positive and negative implications of the Project activity and identified alternatives;
- A draft Environmental Management Programme (EMPr); and
- Copies of specialist reports and reports on specialised processes (if required).

b) Final EIR

Once the Draft EIR was reviewed by Interested and Affected Parties, comments collected and responded to, the report was amended accordingly and then finalised. **This report is the FEIR.**

1.4 Way Forward

The Draft EIR provided an assessment of all the identified key issues and associated impacts from the Scoping Phase. The report was distributed for public comment for a period of **40 calendar days**. All comments on the Draft EIR were considered and a response provided thereto within the Comments and Response Report prior to submission of the Final EIA Report to the relevant authorities for decision-making.

Competent authorities such as the Department of Water Affairs (DWA) and Mpumalanga Department of Economic Development Environment and Tourism (MDEDET) will also need to provide comments to DEA on the adequacy of the FEIR, and DEA will consider these comments prior to making a decision on the proposed continuous ash disposal facility for Tutuka Power Station.