
1 INTRODUCTION

1.1 Who is the proponent?

Eskom Holdings (Ltd) is the South African utility that generates, transmits and distributes electricity. Eskom supplies ~95% of the country's electricity, and ~60% of the total electricity consumed on the African continent. Eskom play a major role in accelerating growth in the South African economy by providing a high-quality supply of electricity.

1.2 Increased Electricity Supply Plan

For many years Eskom has operated in an environment of surplus capacity, this situation has changed in the past few years resulting in an insufficient reserve margin.

The decision to expand Eskom's electricity capacity was based on national policy and informed by on-going strategic planning undertaken by the National Department of Minerals (DM), the National Energy Regulator of South Africa (NERSA) and Eskom. Through Eskom's electricity long term planning process, the Integrated Strategic Electricity Planning (ISEP) process, Eskom identified long-term options for the supply and demand sides of electricity provision in South Africa.

The latest ISEP (ISEP 11, 2008), which presents the planning regime that existed at commencement of this project, identified the need for increased base load electricity supply by the year 2014, while peaking generation is being attended to in the shorter term. The NERSA was the regulatory authority responsible for the electricity supply industry in South Africa. In its National Integrated Resource Plan (NIRP), NERSA determined that, while various alternative and renewable electricity generation options should be continually investigated, coal would still provide the main fuel source in South Africa. Accordingly, coal-fired power stations would be required for the expansion of generation capacity during the next 20 years.

In 2008 Eskom commenced with awarding contracts for the construction of the Kusile Power Station. This coal-fired power station is located near Emalahleni in Mpumalanga. The first unit is planned to be commissioned by 2013.

1.3 Kusile Railway and Associated Infrastructure Project

The planning and decision of Kusile Power Station included Flue Gas Desulphurisation (FGD), technology which will reduce the sulphur dioxide (SO₂) emissions by 90%. This will bring the emissions in line with international emission standards.

Alkaline sorbents are used in the FGD for scrubbing flue gases to remove the SO₂. While the exact source of the sorbent has not been finalised, and contracted, the required sorbent will be transported from a source to be identified through a commercial process.

According to the original planning, sorbent would only be transported by rail to the power station while the roads network would be used for transportation of construction equipment. A rail route was studied and authorised in the Environmental Impact Assessment (EIA) for Kusile Power Station, however, during the detailed design of the railway line, the authorised route was deemed not feasible due to some technical challenges. In terms of the EIA regulations the changes in the route were sufficient to require another EIA process to be undertaken to address the new changes.

The current planning process also suggests a risk that the rail construction and operation would not be ready when the first two generation units come into operation, thus necessitating an alternative sorbent transportation mechanism. Road transportation was deemed an appropriate temporary alternative until the railway is operational, especially since Eskom has embarked on a major drive to reduce road transportation of its supplies. This drive is seen to provide the benefit of decreasing road transportation accidents, thus improving safety. The proposed road for the temporary sorbent transportation, as mentioned, was included and approved in the initial Kusile Power Station EIA, and as such has received EA and construction has commenced. Thus this study will not consider any road transportation.

The railway line assessed in this project will be used to connect the existing Pretoria-Witbank rail route along the Pretoria-Witbank N4 highway to the Kusile Power Station.

1.4 Context of This Report

This report is the Final Environmental Impact Report (FEIR), a key component of the environmental authorisation process, for the proposed construction of a railway line from the existing Pretoria-Witbank railway line, north of the N4 highway, to the Kusile Power Station for the transportation of sorbent.

1.5 Environmental Impact Assessment Practitioner (EAP) Details

In terms of the NEMA EIA regulations, the proponent must appoint an EAP to undertake the environmental assessment of an activity regulated in terms of the aforementioned Act. In this regard, Eskom appointed Zitholele Consulting to undertake the EIA for the proposed construction of the Kusile railway line and associated infrastructure, in accordance with the EIA Regulations promulgated in April 2006 in terms of the National Environmental Management Act ([NEMA] No 107 of 1998) which became effective on 1 July 2006.

Zitholele Consulting is an empowerment company formed to provide specialist consulting services primarily to the public sector in the fields of Water Engineering, Integrated Water Resource Management, Environmental and Waste Services, Communication (public participation and awareness creation) and Livelihoods and Economic Development.

Zitholele Consulting has no vested interest in the proposed project and hereby declares its independence as required by the EIA Regulations.

The details of the EAP representative are listed below.

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Mrs. Jacqui Hex joined Zitholele Consulting (Pty) Ltd in the January 2007 as an environmental scientist. She forms part of the Environment and Waste management sector of the Environment and Waste division of the company. She was awarded the top masters student award at the University of Johannesburg in 2006. She has also attended a course on Environmental Auditing, Environmental Impact Assessments and International Association in Public Participation. She has an in depth knowledge on EIA's, environmental law, strategic environmental assessment, integrated environmental management, social impact assessments, environmental auditing, environmental economics, environmental management frameworks and waste management. A curriculum vitae of the EAP is provided in **Appendix A**.

1.6 Project Progress

The Scoping and Impact Assessment Phases of this project have been completed, these included the following:

- Pre-application consultation with relevant stakeholders and authorities;
- Completion and submission of the relevant Screening / EIA Application documentation;
- Compilation, submission, and approval of the Plan of Study for Scoping;
- Placement of advertisements;
- Compilation and distribution of a Background Information Document;
- Hosting an Open House and Public Meeting;
- Compilation of a Draft Scoping Report;
- Compilation, submission and approval of the Final Scoping Report and Plan of Study for EIA.
- Undertaking of Specialist Studies; and
- Compilation of a Draft Environmental Impact Report and Draft Environmental Management Plan.

Once comments were received on the Draft Environmental Impact Report and Draft Environmental Management Plan, these reports were updated with public comments, finalised and have been submitted to the DEA for decision-making with respect to an authorisation.

The following activities have to take place:

- Grant positive or negative Environmental Authorisation by the authorities;
- Appeal Phase by the I&APs; and
- Project response to appeals (if any is/are submitted).

1.7 Objectives of the Impact Assessment Phase

This report addresses the requirements of the Impact Assessment Phase for the EIA as outlined in the NEMA regulations. The aim of this Final Environmental Impact Report (EIR) is to:

- Provide information to the authorities as well as Interested and Affected Parties (I&APs) on the proposed project; including details on the:
 - § Alternatives that are being considered;
 - § Receiving environment;
 - § Assessing and ranking methodology;
 - § Assessment of significance of impacts
- Indicate how I&APs were afforded the opportunity to contribute to the project, verify that the issues they raised to date have been considered, and comment on the findings of the impact assessments;
- Provide proposed mitigation measures in order to minimise negative impacts and enhance positive impacts; and
- Present the findings of the Impact Assessment Phase in a manner that facilitates decision-making by the relevant authorities.