

10 PLAN OF STUDY FOR ENVIRONMENTAL IMPACT ASSESSMENT**10.1 Introduction****10.1.1 Project Background**

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 poverty alleviation in the country.

If Eskom is to meet its mandate and commitment to supply the ever-increasing needs of end-users in South Africa, it has to continually expand its infrastructure of generation capacity and transmission and distribution power lines. This expansion includes not only the building of new power stations but also expanding and upgrading existing power stations to extend their life.

The Hendrina Power Station, in the Mpumalanga Province currently uses a wet ashing system for the disposal of ash. Hendrina Power Station currently has five ash dams, of which two (Ash dam 3 and 5) are currently in operation, the other three (Ash dam 1, 2 & 4) are not in use for the following reasons:

- Having reached full capacity (Dam 1)
- Stability issues (Dam 2)
- Temporary decommissioning (Dam 4). Ash dam 4 will be re-commissioned in 2011.

At the current rate of disposal on Dams 3, 4 and 5, the rate-of-rise will exceed 4m/year in 2018, which is not acceptable in terms of structural stability. The Hendrina Power Station is anticipated to ash approximately 64.2 million m³ until the end of its life span which is currently estimated to be 2035.

It has been determined, through studies, that the existing ashing facilities are not capable to provide sufficient ash disposal capacity for this amount of ash for the full life of the station. The existing facilities (Ash Dams 3, 4 and 5) allow for the disposal of 20.9 million m³. Therefore, Hendrina Power Station proposes to extend its ashing facilities and associated infrastructure with the following development specifications:

- Additional airspace of 43.3 million m³
- Ash dam ground footprint of 139 ha
- Ground footprint of associated infrastructure such as Ash Water Return Dams of 70 ha

The need for this extension is to allow the Hendrina Power Station to continue ashing in an environmentally responsible way for the duration of the operating life of the Power Station. The need for the extension is related to the deteriorating coal quality, higher load factors, the installation of the Fabric filter plant (to meet requirements in terms of the

National Environmental Management: Air Quality Act (Act 39 of 2004)) and the need to extend station life. The following diagram (**Figure 10.1**) provides an overview of the activities on site and where this project fits within the process.

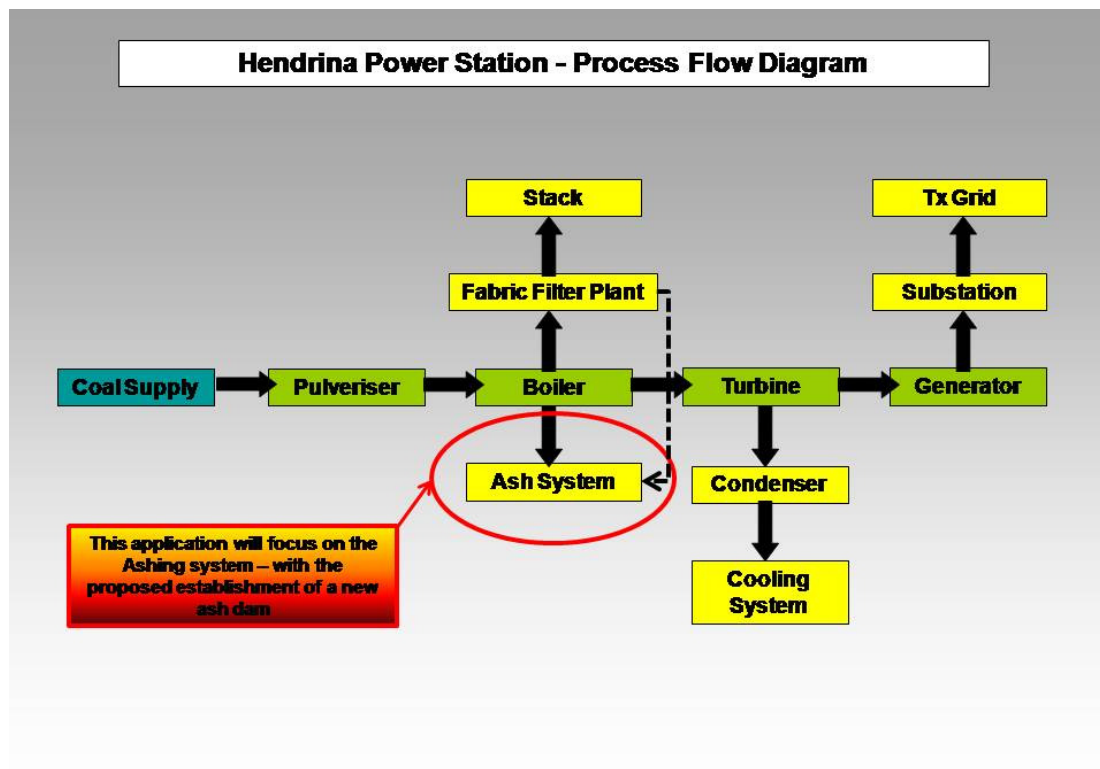


Figure 10.1: An overview of the activities on site and where this project fits within the process

10.1.2 Purpose of the Plan of Study for EIA

This document is intended to provide a summary of the key findings of the Scoping Phase of the EIA and to describe the activities to be undertaken in the Impact Assessment Phase of the EIA. Legislatively, the document is required to provide the following:

- A description of the environmental issues identified during scoping phase that may require further investigation and assessment;
- A description of the feasible design and placement alternatives identified during scoping that may be further investigated;
- An indication of additional information required to determine the potential impacts of the proposed activity on the environment;
- A description of the proposed method of identifying these impacts; and
- A description of the proposed criteria for assessing the significance of these impacts.

The requirements of Regulation 28 of Government Notice R.543 promulgated in terms of section 24 of the National Environmental Management Act, 1998 (Act 107 of 1998) have been reviewed in order to ensure compliance therewith. These requirements are as follows:

- A description of the tasks that will be undertaken as part of the environmental impact assessment process, including any specialist reports or specialised processes, and the manner in which such tasks will be undertaken;
- An indication of the stages at which the competent authority will be consulted;
- A description of the proposed method of assessing the environmental issues and alternatives, including the option of not proceeding with the activity;
- Particulars of the public participation process that will be conducted during the environmental impact assessment process; and
- Any specific information required by the competent authority.

In addition, there are a number of other requirements which the PoS for EIA must address. These include the following:

- The DEAT EIA Regulations Guideline Document (April 1998);
- The DEA response to the Final Scoping Report and Plan of Study for EIA (when received).

10.1.3 Details of Applicant

The details of the applicant are shown in **Table 10.1** below.

Table 10.1: Details of the applicant

Name of Applicant:	Eskom Holding Limited (Hendrina Power Station)
Contact person:	Julian Nair (Power Station Manager)
Postal Address:	Private Bag X1003, Pullenshope, 1096
Tel:	+27 (0)13 296 3400
Fax:	+27 (0)13 296 3569
E-mail:	NairJ@eskom.co.za

10.1.4 Details of Environmental Assessment Practitioner

The details of the Environmental Assessment Practitioner are shown in **Table 10.2** below.

Table 10.2: Details of the independent EIA consultant (Environmental Assessment Practitioner)

Name of Consultant:	Lidwala Environmental & Planning Services (Pty) Ltd
Contact person:	Mr. Frank van der Kooy (PrSciNat) / Ms. Ashlea Strong (CEAPSA)
Postal Address:	P.O. Box 4221, Northcliff, 2115
Tel:	087 351 5145
Fax:	086 686 1628
E-mail:	fvdkooy@absamail.co.za / astrong@lidwala.com

10.1.5 Details of Authorities

The details of the relevant authorities are shown in **Table 10.3** below.

Table 10.3: Details of the relevant authorities

Name:	National Department of Environmental Affairs
Contact person:	Nyiko Ngoveni / Mmatlala Rabothata
Address:	Nyiko Ngoveni / Mmatlala Rabothata
Tel:	315 Pretorius Street, Pretoria, 0001
Fax:	+27 (0) 12 395 1694/1768
E-mail:	+27 (0) 12 320 7539
Name:	Mpumalanga Department of Economic Development, Environment and Tourism
Contact person:	Mrs Dineo Tswai
Address:	c/o Botha and Northey Streets, Pavillion Building, Witbank, 1035
Tel:	+27 (0) 13 690 2595
Name:	Department of Water Affairs
Address:	185 Schoeman Street, Pretoria
Tel:	012 336 8664

10.2 Summary of Project Description

The Hendrina Power Station, in the Mpumalanga Province currently uses a wet ashing system for the disposal of ash. Hendrina Power Station currently has five ash dams, of which two (Ash dam 3 and 5) are currently in operation, the other three (Ash dam 1, 2 & 4) are not in use for the following reasons:

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10.3 Summary of the Legislation Context

The legislative framework applicable to this project is diverse and consists of a number of Acts, Regulations and Treaties which must be complied with. A summary of the key legislation is provided hereunder.

- National Environmental Management: Waste Act No 59 of 2008
- The National Environmental Management: Air Quality Act No 39 of 2004;
- GN R1179 (GG 16536 of 25 August 1995) – Hazardous Chemical Substances Regulations promulgated in terms of the Occupational Health and Safety Act No 85 of 1993;
- Hazardous Substances Act No 15 of 1973
- Constitution of South Africa, 1996 (with reference to noise)
- National Environmental Management Act No 107 of 1998 (with reference to noise and prevention of pollution)
- National Environmental Management: Biodiversity Act No 10 of 2004 (in respect of Fauna, Flora and National Heritage Resources)
- Conservation of Agricultural Resources Act No 43 of 1989 (in respect of Fauna, Flora and National Heritage Resources)
- National Forest Act No 84 of 1998 (in respect of protected trees)
- National Veld and Forest Fire Act No 101 of 1998
- National Heritage Resources Act No 25 of 1999
- Promotion of Access to Information Act No 2 of 2000 (in respect of record-keeping and interested and affected parties and monitoring of environmental impacts:

A full legal review will be undertaken during the EIA phase of the project.

10.4 Summary of the Scoping Phase

10.4.1 Description of the Study Area

Hendrina Power Station is located in the Mpumalanga Province approximately 24 km south of Middleburg and 20 km North of the town of Hendrina. The power station and surrounds falls within the Steve Tshwete Local Municipality which forms part of the larger Nkangala District Municipality.

The greater part of the study area is made up of agricultural and mining activities (**Figure 10.2**). The proposed study area, for alternative sites for the proposed new ash dam, is located within an 8 km radius of the centre point of the Hendrina Power Station Site (**Figure 10.3**).



Figure 10.2: The agricultural and mining activities that form the greater part of the study area

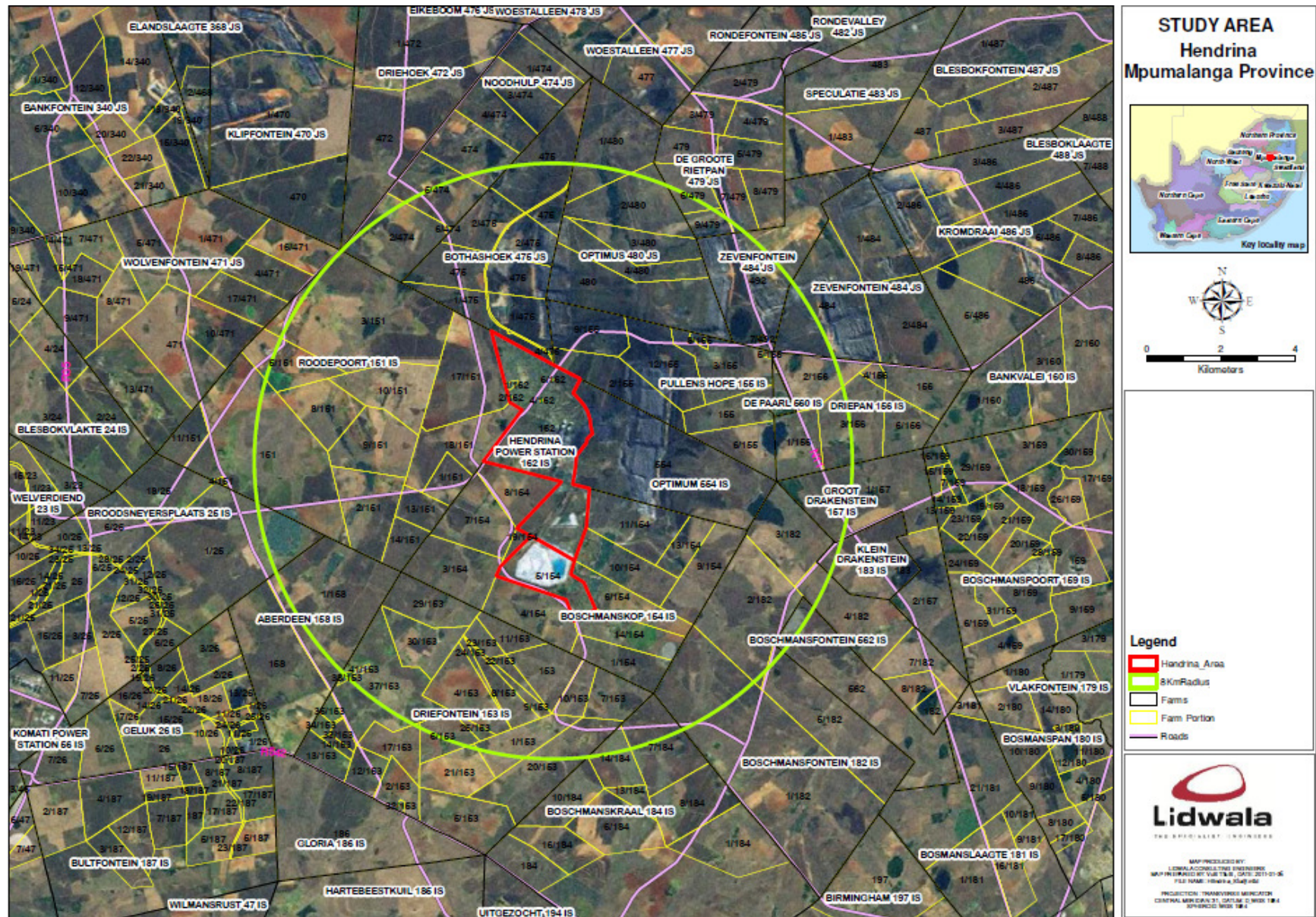


Figure 10.3: Study area overlaid onto a google earth background