Lidwala
Environmental & Planning Services

Eskom Holdings Limited

Eskom

Environmental Impact Assessment for the Proposed Expansion of Ash Disposal Facilities at Hendrina Power Station, Mpumalanga Province

DRAFT SCOPING REPORT

EIA Reference Number:
12/12/20/2175

Date:
June 2011

Report Version:
Draft 3

Lidwala Consulting Engineers (SA) (Pty) Ltd

Randburg Office:
11th Church Avenue, Ruiterhof, Randburg, 2194,
PO Box 4221, Northcliff, 2115.
Tel: 087 351 5145

Pretoria Office:
1415 Moulton Avenue, Waverley, Pretoria, 0186,
PO Box 32497, Waverley, Pretoria, 0135,
Tel/faxs: 012-332 3027

Bloemfontein Office:
4 Bermakor Park 52 Reid Street, Westdene Bloemfontein, 9301,
P.O. Box 4213, Bloemfontein, 9300
Tel: 082 890 1918

Nelspruit Office:
39 Emkhe Street, Nelpruit, 1200
PO Box 2930, Nelspruit, 1200
Tel: 087 351 5145

DOCUMENT DESCRIPTION

Client:	Eskom Holdings Limited
Project name:	Environmental Impact Assessment for the Proposed Expansion of Ash Disposal Facilities at Hendrina Power Station, Mpumalanga Province
Report type:	Draft Scoping Report
Lidwala Project number:	10029KNK
Document number:	Document 1
Authority Reference:	12/12/20/2175
Version:	Draft 3
Compiled by:	Ashlea Strong (CEAPSA)

Specialists:
Frank van der Kooy (PrSciNat) (Social)
Bongi Mhlanga
Riaan Robbeson (PrSciNat) (Fauna and Flora)
Jude Cobbing (PrSciNat) (Ground Water)
Karabo Lenkoe (Ground Water)
Johnny van Schalkwyk (Heritage)
Jon Smallie (Avifauna)
Michiel Jonker (Surface Water)
Lourens du Plessis (Visual)
Steven Hendwood (Visual)
Mandy van der Westhuizen (Visual)
Nicolene Venter (PPP)

GIS:
Glenn Mullett
Katie Sassenberg

EXECUTIVE SUMMARY

1 INTRODUCTION

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 powerlines. 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 m^3 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 m^3. Therefore, Hendrina Power Station proposes to extend its ashing facilities and associated infrastructure with the following development specifications:

- Additional airspace of 43.3 million m^3
- 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 1**) provides an overview of the activities on site and where this project fits within the process.

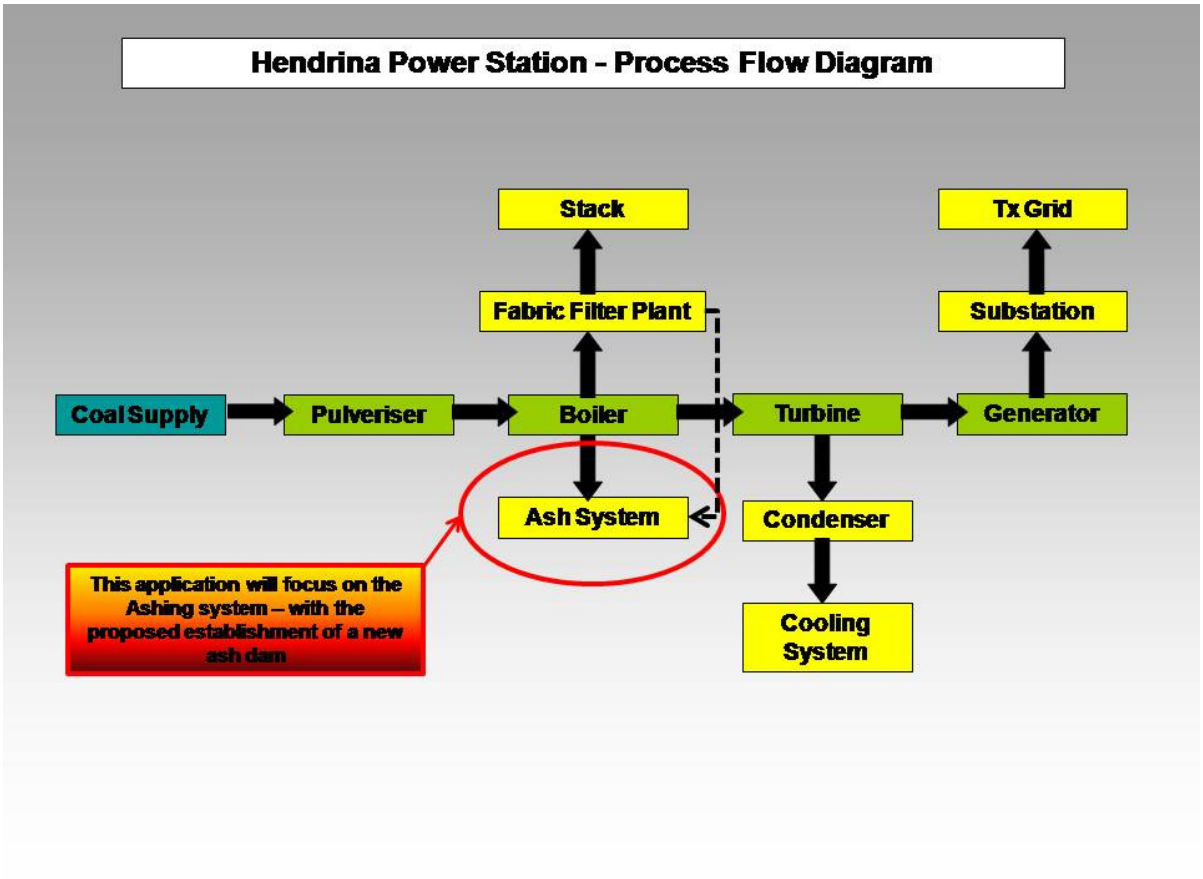

Figure 1: An overview of the activities on site and where this project fits within the process

1.2 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 Nkangala District Municipality.

The greater part of the study area is made up of agricultural and mining activities (**Figure 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 3**).

Figure 2: The agricultural and mining activities that form the greater part of the study area

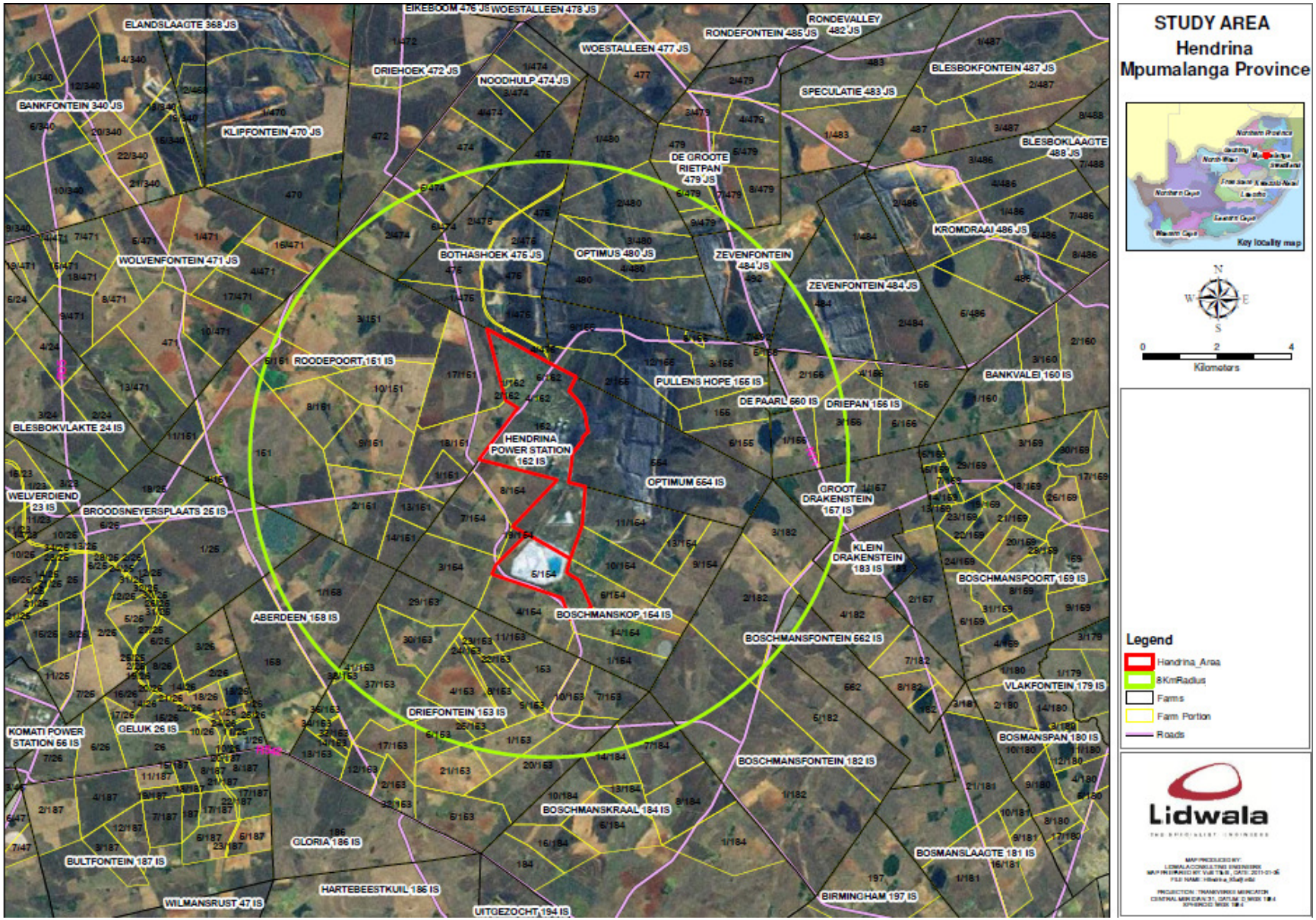

Figure 3: Study area overlaid onto a google earth background

2 PROCESS TO DATE

The Environmental Impact Assessment (EIA) process for the proposed new ash dam is comprised of two main phases, namely the Scoping phase and Impact Assessment phase. This report documents the tasks which have been undertaken as part of the Scoping phase of the EIA. These tasks include the public participation process and the documentation of the issues which have been identified as a result of these activities. To date, tasks that have commenced include the:

- Identification of stakeholders or I&APs;
- Notification and advertisements;
- Background Information Documents; and
- Ongoing consultation and engagement

More detail on the above is available in Chapter 6.

The Draft Scoping Report will be released for public review and comment from **2 June to 12 July 2011**. During the review period a public participation process (PPP) will be undertaken, allowing Interested and Affected Parties (I&APs) to engage with the project proponents and independent environmental consultants. The PPP will consist of a public open day and one-on-one interactions where required. Issues raised by I&APs during the public participation process will be documented and included in the Final Scoping Report.

The relevant authorities required to review the proposed project and provide an Environmental Authorisation were consulted from the outset of this study, and have been engaged throughout the project process. The National Department of Environmental Affairs (DEA), is the competent authority for this Project. The Department of Water Affairs (DWA), and the Mpumalanga Department of Economic Development, Environment and Tourism (MDEDET) are noted as key commenting authorities. For a comprehensive list see Chapter 2 and 6.

The Scoping Phase of an EIA serves to define the scope of the detailed assessment of the potential impacts of a proposed project. The Environmental Scoping Phase has been undertaken in accordance with the requirements of sections 24 and 24D of the National Environmental Management Act (NEMA) (Act 108 of 1998), as read with Government Notices R 543 of the 2010 EIA Regulations. The objectives of the Scoping Phase are to:

- Ensure that the process is open and transparent and involves the Authorities, proponent and stakeholders;
- Identify the important characteristics of the affected environment;
- Ensure that feasible alternatives are identified and selected for further assessment;
- Assess and determine possible impacts of the proposed project on the biophysical and socio-economic environment and associated mitigation measures; and
- Ensure compliance with the relevant legislation.

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.

4 DESCRIPTION OF THE BASELINE ENVIRONMENT

The area within the study area is characterised by typical undulating terrain of the Mpumalanga Province. The natural topography of the area has been highly disturbed as a result of mining and agricultural activities.

The climate in the study area can be described as typical highveld conditions with summers that are moderate and wet, while winters are cold and dry. The mean annual precipitation is approximately 735 mm/year, with rain experienced predominantly in the summer months (October to April). Minimum temperatures have been recorded from -1.8°C to 13.7°C with maximum temperatures ranging between 18°C and 27°C. The prevailing wind direction is recorded as being from the north-east and north.

The Hendrina power station and surrounds are located on coal-bearing rocks of the Vryheid Formation, part of the lower Karoo Supergroup. These rocks are principally deltaic and fluvial siltstones and mudstones, with subordinate sandstones (Johnson et al, 2006).

The coal seams originated as peat swamps, or similar environments. Where the Dwyka Group is absent (suspected in the study area), the Vryheid Formation has been deposited directly onto rugged pre-Karoo topography, and the thickness of the Formation can be quite variable as a result. The Vryheid Formation rocks are well lithified (hard) and have little primary porosity

Terrestrial grassland patches that are captured within the respective site alternatives represent the Eastern Highveld Grassland. This vegetation type is Endangered and only small fractions are conserved in statutory reserves. Some 44% is transformed by cultivation, plantations, mines, urbanisation and by building of dams. Cultivation may have had a more extensive impact than which is currently indicated by land cover data. The vegetation is short dense grassland dominated by Aristida, Digitaria, Eragrostis, Themeda and Tristachya species. Small rocky outcrops are scattered across the landscape. Wiry grasses and woody species are associated with these outcrops. These include species such as Acacia caffra, Celtis africana, Diospyros lycioides, Parinari capensis, Protea caffra and Searsia magalismontanum (Mucina & Rutherford, 2006). The Endangered status of this vegetation type warrants a medium-high environmental sensitivity. Small portions of the Eastern Temperate Freshwater Wetlands vegetation type are located within the study area

The property falls within the Upper Olifants Sub-Area of the Olifants Water Management Area (WMA4). The Upper Olifants Sub-Area is the most urbanised of the 4 sub-areas in WMA4. The Upper Olifants covers an area of 11 464 km2 with a mean annual runoff of 10 780 million m3 (Midgley et al., 1994). Surface runoff in this area is regulated by a number of large dams, namely Witbank, Bronkhorstspruit and the Middleburg dams (Basson et al., 1997). Majority of the urban population is located in Witbank and Middelburg areas, and it is projected that the population in these urban areas is expected to grow in the near future therefore increasing the water requirement in the Sub-Area. Extensive coal mining activities are taking place in the sub-area, both for export to other provinces and for use in the six active coal fired power stations in the sub-area. Water quality in this sub-area is therefore under threat. Mining activities in the area impact on the natural hydrological system by increasing infiltration and recharge rates of the groundwater. Approximately 62 million m3 is predicted to decant from mining activities (post closure) every year, creating a need for water quality management plans in this Sub-Area (DWAF, 2004).

Groundwater storage and transport in the unweathered Vryheid Formation is likely to be mainly via fractures, bedding planes, joints and other secondary discontinuities. The success of a water supply borehole in these rocks depends on whether one or more of these structures are intersected. In general the Vryheid Formation is considered to be a minor aquifer, with some abstractions of local importance. Relatively minor outcrops of the Rooiberg and Quaggasnek Formations that underlie the Vryheid Formation are also found in the study area.

5 ALTERNATIVES AND SITE SELECTION

A screening study was initiated upfront in the process in order to identify potential sites within the study area that would be suitable for use as alternative sites for the proposed new ash dam. The study area was demarcated using an 8 km radius around the Hendrina Power Station. Within this 8km radius two further demarcations where included, although based on technical impacts such as the costs involved in the project and the risk of security of supply, the distances involved also take into account the potential additional environmental impacts in terms of the distance required for new infrastructure to be constructed and operated.

- A 3 km radius within which no additional technical costs would be incurred in terms of the construction and operational of the proposed new ash dam;
- A 5 km radius within which minimal additional technical costs would be incurred in terms of the construction and operation of the proposed new ash dam

In order to ensure that sites were identified in the most objective manner possible, a sensitivity mapping exercise was undertaken for the study area. The purpose of such an exercise was to identify suitable areas within the study area that could accommodate the proposed new ash dam and associated infrastructure and to pro-actively identify sensitive areas (i.e. fatal flaws) that should ideally be avoided. **Figure 4** shows the final sensitivity map that was utilised to identify the five alternative sites (**Figure 5**) assessed in this scoping report.

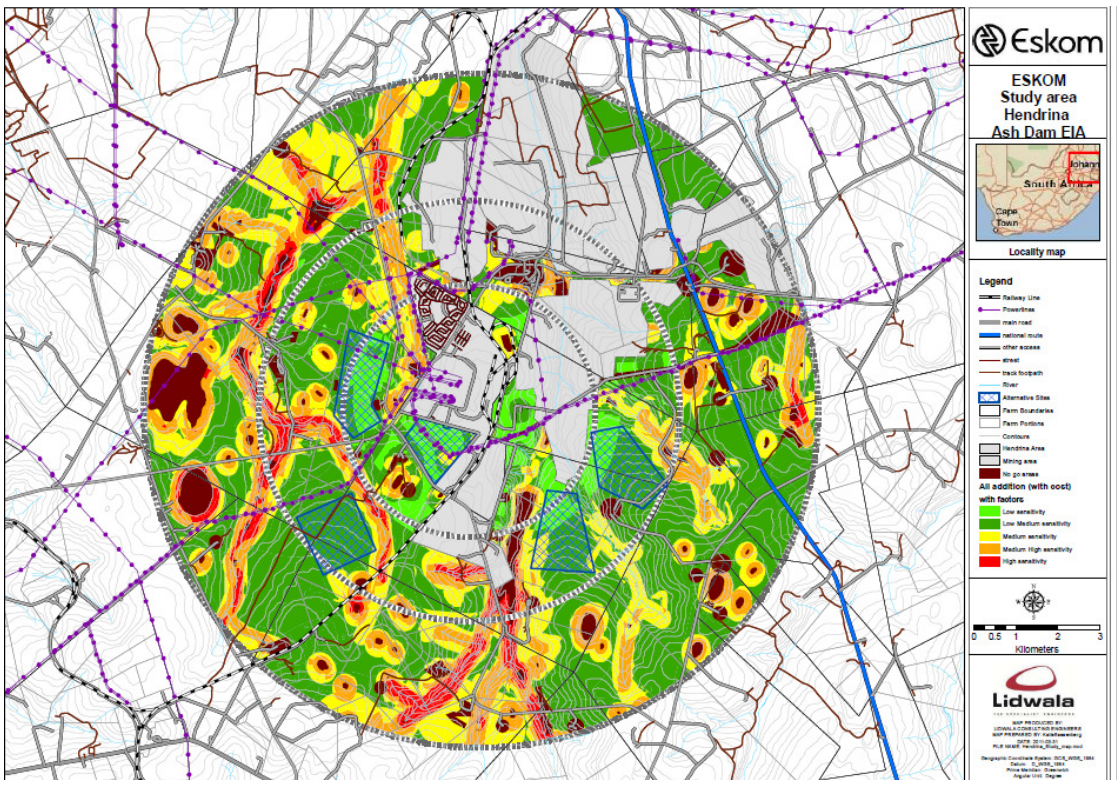

Figure 4: Recommended alternative sites (sensitivity map with the adjustment factors with cost)

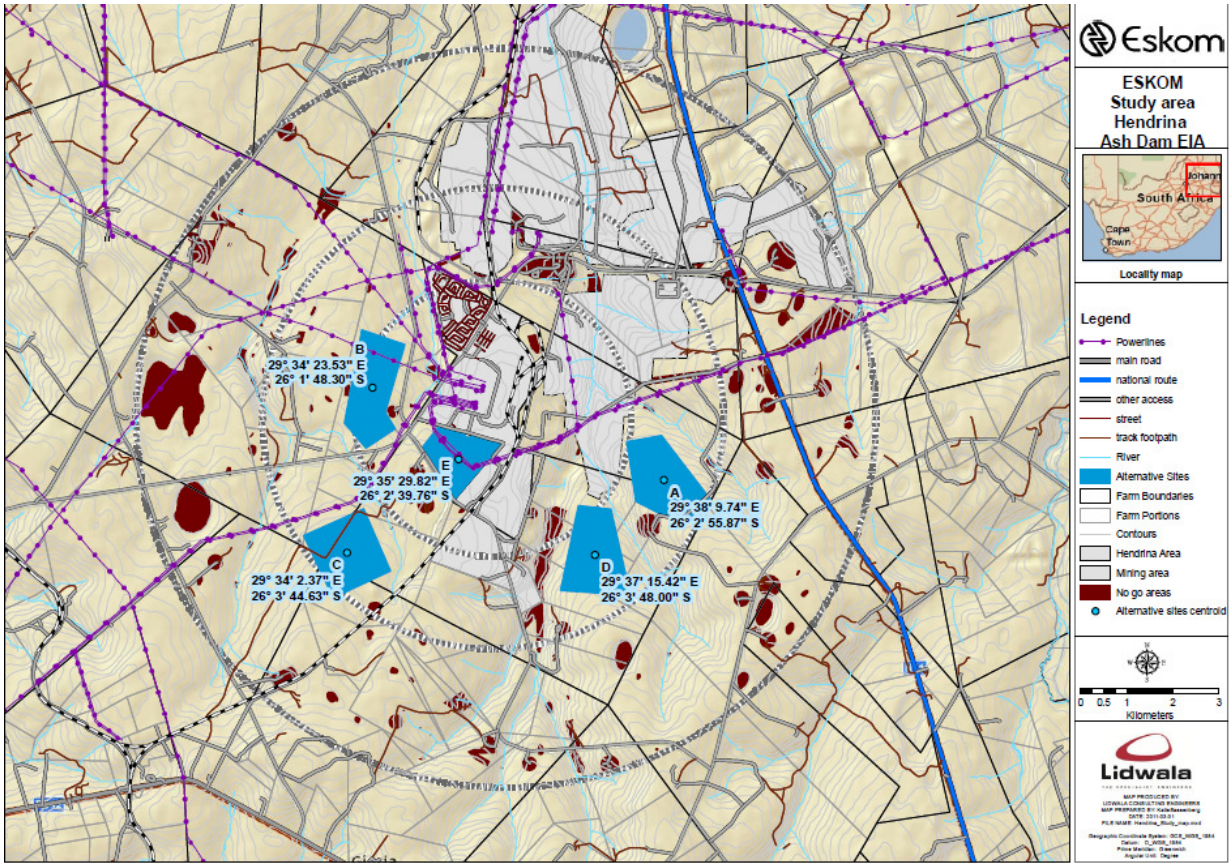

Figure 5: Final Five Alternative sites for further consideration during the EIA Process

In order to identify which of the five alternative sites are deemed preferred for further investigation during the EIA Phase, the specialists were requested to rank the alternatives sites according to a site ranking methodology.

The evaluation and nomination of a preferred site involves a highly interdisciplinary approach. The approach undertaken has involved a number of specialist studies which examine a number of different issues. In order to evaluate sites and determine a preferred site, the studies need to be comparative and therefore a site rating matrix was developed. The site preference rating system is applied to each discipline, and the rating of each site was conducted according to the following system:

1 = Not suitable for development / No-Go (impact of very high significance - negative)
2 = not preferred (impact of high significance - negative)
3 = acceptable (impact of moderate significance - negative)
4 = Preferred (impact of low or negligible significance - negative)

The final Site Ranking matrix is shown in **Table 1**.

Table 1: Final Site Ranking Matrix

Study	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
Biodiversity	3	3	3	2	2
Avifauna	3	3	2	2	4
Surface Water	2	2	3	1	4
Ground water	2	3	4	2	2
Social	4	2	2	2	4
Visual	2	3	2	3	4
Design and Technical	2	3	2	2	4
Total	**18**	**19**	**18**	**14**	**24**

From the above preference rating results it is clear that Alternative E is by far the preferred site overall with Alternative B as the second most preferred site.

In addition to the screening process and the above site preference rating exercise (**Table 1**) the fatal flaws listed in the Minimum Requirements have also been taken into account in order to ensure that the most preferable site has been identified for further study in the EIA phase of this project. The Minimum Requirements require that no landfill / disposal site be developed in an area with an inherent fatal flaw. Through the fatal flaw discussion Alternatives A, B, and D could be eliminated (**Table 2**)

Table 2: Minimum Requirement Fatal Flaws

Fatal Flaw	Discussion	Site eliminated
Any area characterised by any factor that would prohibit the development of a landfill at prohibitive cost	The Eskom technical team deemed that any alternative located within a 8km radius of the power station could be deemed suitable in terms of cost. However, after ground truthing, the independent engineering input received noted that Site A is situated directly adjacent to Optimum Mine's open cast mining operation and Site D is just east of Total coal's Tumela Mine and on the "opposite" side of the open cast workings and a large dam to the existing power station facilities and is therefore considered too inaccessible. These two sites are therefore not considered technically	Alternative A, C and D

	feasible options without excessive expense.	
Areas overlying viable mineral resource	Although this is not deemed a specific fatal flaw in terms of the minimum requirements – it could be linked to a couple of the above items specifically in terms of incompatible land uses. It is also Eskom's policy, where possible, to avoid sterilising viable mineral resources. The entire area is situated on coal resources, the exact viability of which we are unable to determine for certain at this stage. However, Alternative A and D are directly adjacent to both Optimum's and Total's opencast mining operations and are therefore anticipated to be on a viable resource. During a site visit (for ground truthing) it was noted that there are a number of mining right applications on the go within the study area, one particular application, for Kebrafield (Pty) Ltd (DMR Reference number: 30/5/1/2/2/479MR) is situated over a fairly large area to the west of the power station and includes all the farm portions included in the area identified for alternative B.	Alternative A, B and D

The preferred sites identified from the site preference rating exercise (**Table 1**) include Alternative E and B. The above discussion (**Table 2**) with regards to the Minimum requirements fatal flaws excludes alternatives A, D and B for either being deem technically unfeasible (without excessive expense) or overlying viable coal resource.

Therefore, with the results of the two site selection discussions above only two sites are left for consideration as alternative sites for the proposed ash dam, i.e. Alternatives E and C.

The choice of a preferred site is required to take all aspects of the environment into account, social, biophysical, technical and economic aspects. Alternative C is deemed suitable from a cost perspective as it falls within the 8 km radius of the power station, from a technical point of view it can also be deemed suitable as apart from being a fair distance from site there are no major barriers (from a technical point of view) that would make the site unfeasible. The social study noted that Alternative C was situated close to a

number of agricultural settlements and was also found to have the highest visual exposure of all 5 alternatives. From a biophysical point of view Alternative C is considered to be far less preferred than Alternative E as linear infrastructure required such as access roads, power lines and pipelines would be required to traverse at least 3 – 4 km from the power station to the site without the option of not crossing surface water features that were highlighted as higher sensitive areas by the surface water, biodiversity, avifauna and groundwater specialists during the screening phase.

The surface water system in question is a perennial system. Nel et al. (2004) lists a status of critically endangered for all the river signatures associated with the study area, which will include the surface water feature that would need to be crossed by linear infrastructure required for a new ash dam at alternative C. The ascribed river status indicates a limited amount of intact river systems carrying the same heterogeneity signatures nationally. This implies a severe loss in aquatic ecological functioning and aquatic diversity in similar river signatures on a national scale (Nel et al., 2004). Therefore, it is anticipated that the use of Alternative C as a preferred site would increase the risk of pollution and the associated environmental degradation of the system in question.

The above discussion clearly shows that Alternative C is not a recommended alternative. Alternative E due the additional impacts that would occur due to the construction and operation of the linear infrastructure required. Alternative E is considered more favourable due to its close proximity to the existing facilities and due to the fact that this alternative would be able to link in with many of the existing associated facilities therefore reducing the required footprint substantially. In terms of the cost mapping, Alternative E is within the 3km radius which does not require any additional costs for the development of the new ash dam.

In addition to the above discussion the "Max wins" map (taking cost into account – as required in the minimum requirements) from the screening study can be consulted to support the preference for Alternative E. The "max wins" map was developed by keeping all areas deemed sensitive (in all study areas) sensitive (**Figure 6**), Alternative E is clearly shown to be situated in one of the few areas deemed acceptable for the placement of the ash dam.

Therefore, this scoping study recommends that Alternative E and the No-go Alternative are carried forward to the EIA phase.

Due to the preferred site, the EIA will also need to assess alternative corridor alignments for the relocation of the power lines that traverse Alternative E.

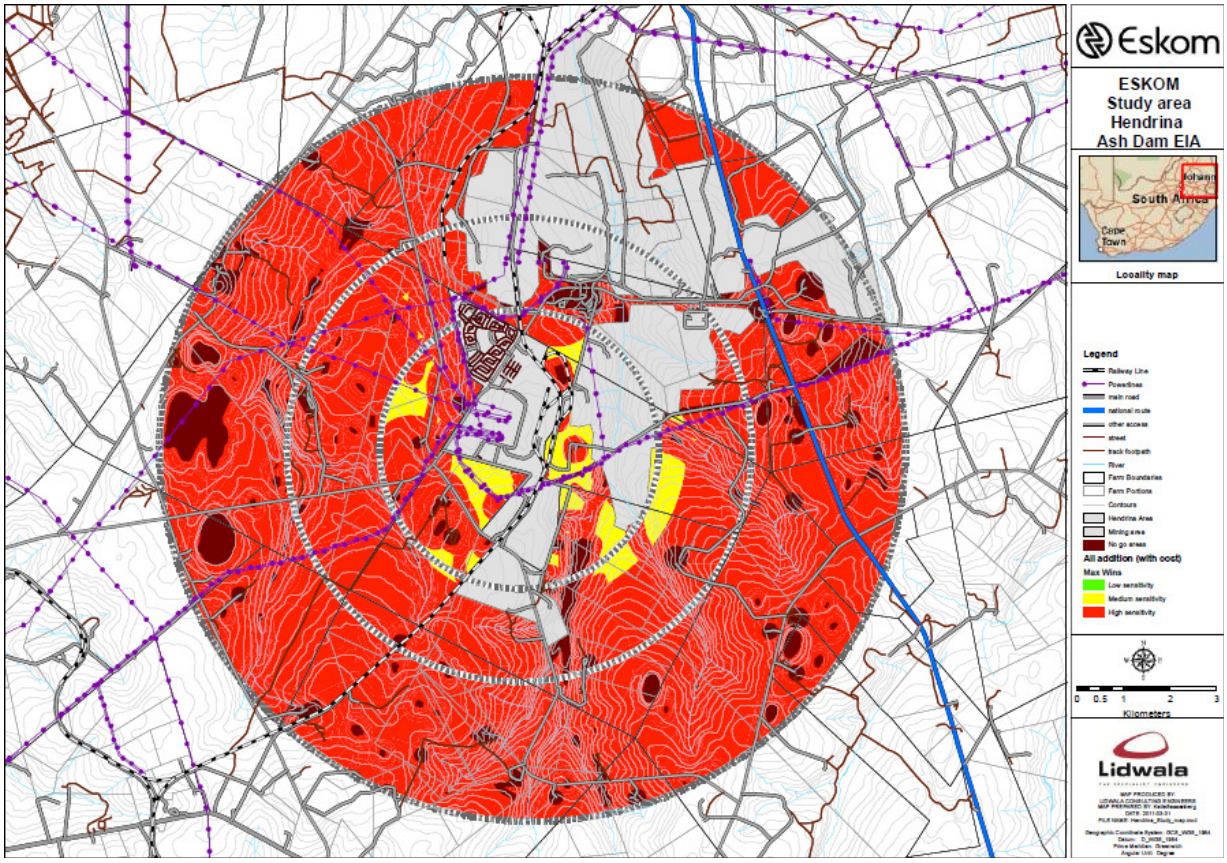

Figure 6: Max Wins map (including cost) from the screening study – showing acceptable areas for site choice

6 FINDINGS OF THE IDENTIFICATION OF IMPACTS

The following impacts have been identified for additional study during the EIA phase and are deemed to be issues of potentially **medium to high significance** or those anticipated to require specific mitigation measures:

<u>Biophysical Impacts – Ash Dam</u>:

- **Geology**
  - Impacts related to the construction-related earthworks as well as the pollution of geological features in case of spillage/leakage of hydrocarbon and other hazardous material from storage facilities have been identified as having a medium significance.
  - Mitigation measures are required to be identified.

- **Geotechnical issues**
  - Phase 1 geotechnical study will be undertaken in the EIA phase.

- **Topography**
  - Change to drainage patterns due to construction-related earthworks and additional stormwater drainage patterns.

- Mitigation measures are required to be identified.

- **Soil**
  - Pollution of soil due to handling, use and storage of hazardous substances during construction and operation.
  - The loss of available top soil.
  - Mitigation measures are required to be identified.

- **Land Capability**
  - Key variables that determine the land capability of the study area such as soil fertility reduced and disturbed due to the potential activities related to the ash dam.
  - The loss of viable agricultural land.
  - Mitigation measures are required to be identified.

- **Avifauna**

  The greatest predicted Impact of Ash dams on avifauna are the destruction of habitat and disturbance of birds during construction. During the construction phase, habitat destruction and alteration inevitably takes place. Habitat destruction is anticipated to be the most significant impact in this study area. However, this can be minimized and mitigated should the smallest alternative be chosen. Similarly, the above mentioned construction and maintenance activities impact on bird through disturbance, particularly during bird breeding activities. Disturbance of birds is anticipated to be of lower significance than habitat destruction. Leachate from fly ash dams can contain heavy metals (Theism and Marley, 1979) which could result in contamination of surrounding water sources, used by water birds in the study area. Correct placing of the new dam, away from wetlands, dams and water bodies, will help to mitigate this impact.

  In addition to the expansion of the ash dams the project will also include the expansion of the relevant infrastructure associated with the ashing system, such as pipelines, storm water trenches, seepage water collection systems, pump stations, seepage dams etc, and may also involve the relocation of certain infrastructure (e.g. power lines) depending on which alternative is chosen. The impacts of such associated infrastructure on avifauna are predicted to be minimal, so long as the infrastructure is within the proposed ash dam footprint. Infrastructure outside of the proposed footprint (i.e. outside of the 5 proposed alternatives), will be assessed in the EIA phase of the project, upon determination of the preferred site.

- **Biodiversity**

  Ten impacts were identified that are of relevance to any development in a natural environment. Impacts were placed in three categories, namely:

  - Direct impacts:
    - Destruction of threatened and protected flora species;

    - Direct impacts on threatened fauna species;
    - Destruction of sensitive/ pristine habitat types;
    - Direct impacts on common fauna species;
  - Indirect Impacts:
    - Floristic species changes subsequent to development;
    - Faunal interactions with structures, servitudes and personnel;
    - Impacts on surrounding habitat/ species;
  - Cumulative Impacts:
    - Impacts on SA's conservation obligations & targets (VEGMAP vegetation types);
    - Increase in local and regional fragmentation/ isolation of habitat; and
    - Increase in environmental degradation.

  Other, more subtle impacts on biological components, such as changes in local, regional and global climate, effects of noise pollution on fauna species, increase in acid rain and ground water deterioration are impacts that cannot be quantified to an acceptable level of certainty and is mostly subjective in nature as either little literature is available on the topic or contradictory information exist.

- **Surface Water**
  - Contamination of surface water from seepage and run off.
  - Loss of aquatic biodiversity.
  - Loss of runoff into the catchment.
  - The detailed aquatic ecological impact assessment will quantify the significance of possible impacts associated with the preferred site.

- **Groundwater**
  - Contamination of ground water due to hydrocarbon spillage and seepage into groundwater reserves, affecting groundwater quality.
  - Mitigation measures are required to be identified.
  - Further construction of infrastructure and compaction of the area will further contribute to reduced water infiltration rates to replenish groundwater aquifers. Mitigation measures are required to be identified.

- **Noise**
  - Change in ambient noise levels during both construction and operation.

- **Air Quality**
  - Increase in dust generating activities during construction and operation including exceedances of PM10 concentrations and exceedances of dustfall rates.
  - Mitigation measures may be required to be identified if required.

<u>Socio-Economic Impacts – Ash Dam</u>:

- Visual impacts of preferred site

- Disturbance of cultural or historical sites
- Economic benefits through employment
- Continued generation of Electricity over the long term at Hendrina Power Station
- Health risks from elevated PM10 concentrations and dust fall rates
- Loss of groundwater resource to local users (in terms of potential groundwater contamination)
- Inflow of temporary workers.
- Mitigation measures are required to be identified.

Potential Impacts associated with relocating the Powerlines at Alternative E

- Visual impact of the new power line routes and proposed tower structures;
- Loss of land capability if relocated over agricultural land and the loss of available top soil;
- Loss of aquatic habitat and contamination of surface water ecosystems due to sedimentation;
- Loss of biodiversity and habitats;
- Potential groundwater contamination due to chemical spillage during construction;
- Collisions and electrocutions of birds;
- Disruption of land use and loss of economic potential; and
- Increase in health risk to neighbouring residents due to EMF.

The above mentioned impacts will be investigated in more detail during the EIA phase of the project.

7 CONCLUSIONS AND RECOMMENDATIONS

Based on the desktop studies undertaken to date no environmental fatal flaws (excluding those listed by the DEA Minimum Requirements for Waste Landfill) have been identified that would prohibit the project from continuing at this stage of the process. However, a number of potentially significant environmental impacts have been identified as requiring some more in-depth investigation and the identification of detailed mitigation measures. Therefore, a detailed Environmental Impact Assessment is required to be undertaken in order to provide an assessment of these potential impacts and recommend appropriate mitigation measures, where required.

The recommendation of this report is that detailed specialist studies are undertaken on the preferred site (Alternative E) and the no-go alternative. In addition to this the specialist will also be required to assist in the identification of alternative corridors for the re-routing of the powerlines that traverse Alterative E as well as to investigate and assess the potential impacts associated with the relocation of the powerlines.

Eskom Holdings Limited

Environmental Impact Assessment for the Proposed Expansion of Ash Disposal Facilities at Hendrina Power Station, Mpumalanga Province

Draft Scoping Report

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES