

**Final Basic Assessment Report for the
Proposed Retrofitting of the Existing
Electrostatic Precipitators with Fabric
Filter Plants at Grootvlei Power Station
Units 2, 3 and 4, Mpumalanga Province**



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12010KNK

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Eskom Holdings (SOC) Limited

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TABLE OF CONTENTS

<u>Number</u>	<u>Description</u>	<u>Page</u>
SECTION A: ACTIVITY INFORMATION		2
1.	Activity Description	2
2.	Feasible and Reasonable Alternatives	5
3.	Activity Position	8
4.	Physical Size of the Activity	8
5.	Site Access	9
6.	Site or Route Plan	9
7.	Site Photographs	10
8.	Facility Illustration	10
9	Activity Motivation	10
10	Applicable Legislation, Policies and / or Guidelines	12
11	Waste, Effluent, emission and noise management	12
11a	Solid waste management	12
11b	Liquid waste management	13
11c	Emissions into the atmosphere	14
11d	Generation of noise	14
12	Water use	14
13	Energy efficiency	15

SECTION B: SITE / AREA / PROPERTY DESCRIPTION	16
1 Gradient of the site	17
2 Location in landscape	17
3 Groundwater, soil and geological stability of the site	18
4 Groundcover	18
5 Land use character of surrounding area	19
6 Cultural / historical features	21
SECTION C: PUBLIC PARTICIPATION	22
1 Advertisement	22
2 Content of advertisements and notices	22
3 Placement of advertisements and notices	23
4 Determination of appropriate measures	25
5 Comments and response report	25
6 Authority participation	26
7 Consultation with other stakeholders	26
SECTION D: IMPACT ASSESSMENT	27
1 Issues raised by interested and affected parties	27
2 Impacts that may result from the planning and design, construction, operational, decommissioning and closure phases as well as proposed management of identified impacts and proposed mitigation measures	27
3 Environmental impact statement	39
SECTION E: RECOMMENDATION OF PRACTITIONER	40

SECTION F: APPENDICES

41

Appendix A: Site Plan

Appendix B: Photographs

Appendix C: Facility Illustration

Appendix D: Specialist Studies

Appendix E: Comment Response Report – Not Applicable – No comments received during the report review period

Appendix F: Environmental Management Plan

Appendix G: Public Participation Information



environmental affairs

Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

(For official use only)

File Reference Number:

Application Number:

Date Received:

Basic assessment report in terms of the Environmental Impact Assessment Regulations, 2010, promulgated in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended.

Kindly note that:

1. This **basic assessment report** is a standard report that may be required by a competent authority in terms of the EIA Regulations, 2010 and is meant to streamline applications. Please make sure that it is the report used by the particular competent authority for the activity that is being applied for.
2. The report must be typed within the spaces provided in the form. The size of the spaces provided is not necessarily indicative of the amount of information to be provided. The report is in the form of a table that can extend itself as each space is filled with typing.
3. Where applicable **tick** the boxes that are applicable in the report.
4. An incomplete report may be returned to the applicant for revision.
5. The use of "not applicable" in the report must be done with circumspection because if it is used in respect of material information that is required by the competent authority for assessing the application, it may result in the rejection of the application as provided for in the regulations.
6. This report must be handed in at offices of the relevant competent authority as determined by each authority.
7. No faxed or e-mailed reports will be accepted.
8. The report must be compiled by an independent environmental assessment practitioner.
9. Unless protected by law, all information in the report will become public information on receipt by the competent authority. Any interested and affected party should be provided with the information contained in this report on request, during any stage of the application process.
10. A competent authority may require that for specified types of activities in defined situations only parts of this report need to be completed.
11. Should a specialist report or report on a specialised process be submitted at any stage for any part of this application, the terms of reference for such report must also be submitted.

SECTION A: ACTIVITY INFORMATION

Has a specialist been consulted to assist with the completion of this section?

YES

If YES, please complete the form entitled "Details of specialist and declaration of interest"

for appointment of a specialist for each specialist thus appointed:

Any specialist reports must be contained in Appendix D.

The following specialists have assisted with the compilation of this assessment:

- Francois Malherbe – Noise Specialist (Francois Malherbe Acoustic Consulting)
- Dawie Jansen van Vuuren – Visual Specialist (MetroGIS)
- Renee von Gruenewaldt – Air Quality Specialist (Airshed Planning Professionals)

The specialist reports and the associated specialist declaration forms are included in **Appendix D**.

1. ACTIVITY DESCRIPTION

Describe the activity, which is being applied for, in detail¹:

On the 31st of March 2010, Notice 248 was published, by the Department of Environmental Affairs (DEA), in terms of the National Environmental Management: Air Quality Act (Act 39 of 2004), providing new Minimum Emission Standards. The new standards require that all existing power stations conform to a standard of 100mg/Nm³ (Nm³ = Normalised cubic meter, 101,325kPa, 0°C, normalised to 10% reference O₂, on a dry basis) by 2015.

The purpose of the proposed project is to retrofit the existing particulate emission abatement technology, Electrostatic Precipitators (ESPs), with more effective particulate emission abatement technology, Fabric Filter Plants (FFPs), that will allow Grootvlei Power Station to meet the new particulate emission standard. The project involves the retrofitting of the existing ESPs at Units 2, 3 and 4 with FFPs utilising a pulse jet cleaning technology that will fit into the existing ESP casings, with a 1.1 meter extension of height in the overall casing. The cross-section area of the existing casing remains unchanged.

Producing electricity from coal starts when coal is pulverised in mills into a fine powder before it is blown into boilers, which are at high temperatures. Due to the heat in the boiler, the coal particles combust to generate heat to turn water into steam. The steam is used to turn the turbine. The turbine turns a coil made of copper wire (the rotor) which is inside a magnet (the stator), which together make up the generator. The generator produces an electric current, which is sent to the grid for distribution.

¹ Please note that this description should not be a verbatim repetition of the listed activity as contained in the relevant Government Notice, but should be a brief description of activities to be undertaken as per the project description.

One of the emission wastes from the power generation process is ash (particulate matter). The gases travel to the emission abatement technology (which will be FFPs at all units after the retrofit) where approximately 99.9% of the particulates are removed before the gas is released to the atmosphere through the smoke stack.

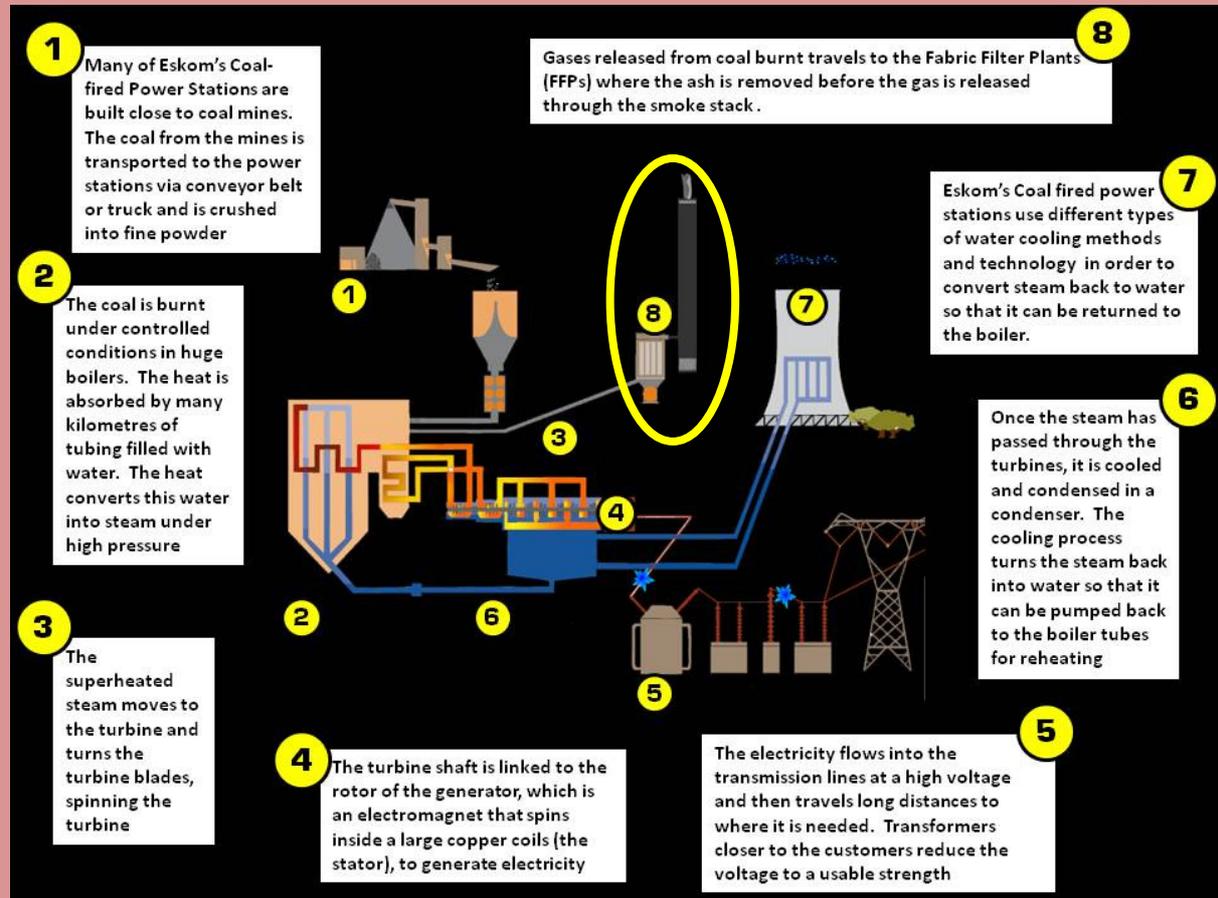


Figure 1: Generic schematic representation of how electricity generation in a coal-fired power station works. This Basic Assessment is focussing on step 8

The current scope of the Basic Assessment (BA) process includes:

- The retrofitting of the existing ESP technology with new Fabric Filter Plants on units 2, 3 and 4, within the borders of the existing ESP Casings, while extending the height of the casing with 1.1 meters.
- The construction of a new compressor house
- A new concrete driveway to the new compressor house
- Replacing of the existing ID Fans with higher capacity ID Fans
- The construction of a new fabrication workshop and contractors yard within the power station's perimeter

During construction the existing ESP technology will be removed from the existing concrete casing (**Figure 2**) and the material either recycled or disposed at a licensed waste disposal facility, in line

with the station's waste management procedures and processes. The FFP technology will be installed inside the existing casing and upgrades will be included around the casing. These upgrades include the installation of new larger ID fans in the same location as the existing fans, however the existing foundations will be strengthened/reinforced. In addition a compressor house will be constructed at a vacant piece of land (**Figure 3**) and for the duration of construction the contractor will have a construction and contractor's yard (including a new fabrication workshop) at their disposal, established at the station.



Figure 2: Existing Concrete ESP Casing within which the new Fabric Filter Plant will be installed, while extending the height of the casing with 1.1 meters.



Figure 3: The area set aside for the construction of the proposed new compressor house (it is important to note that the entire area in the photo will not be utilised). This area was chosen due to its close proximity to the units.

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 Notice 1, GN R544 require environmental authorisation, through a Basic Assessment (BA) process, before they can proceed.

This proposed project activates a Listed Activity in accordance to these EIA Regulations, as reflected in the table below.

Act	Listing Notice	Listed Activity	Description
NEMA	No. R. 544	Activity 28	The expansion or changes to existing facilities for any process or activity where such expansion or changes will result in the need for a permit or license in terms of national or provincial legislation governing the release of emissions or pollution, excluding where the facility, process or activity is included in the list of waste management activities published in terms of section 19 of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) in which case that Act will apply <i>(i.e. In terms of this project the change in air quality abatement technology will result in the need for Eskom to change the terms of their Air Quality Permit)</i>

2. FEASIBLE AND REASONABLE ALTERNATIVES

“**alternatives**”, in relation to a proposed activity, means different means of meeting the general purpose and requirements of the activity, which may include alternatives to—

- (a) the property on which or location where it is proposed to undertake the activity;
- (b) the type of activity to be undertaken;
- (c) the design or layout of the activity;
- (d) the technology to be used in the activity;
- (e) the operational aspects of the activity; and
- (f) the option of not implementing the activity.

Describe alternatives that are considered in this application. Alternatives should include a consideration of all possible means by which the purpose and need of the proposed activity could be accomplished in the specific instance taking account of the interest of the applicant in the activity. The no-go alternative must in all cases be included in the assessment phase as the baseline against which the impacts of the other alternatives are assessed. The determination of whether site or activity (including different processes etc.) or both is appropriate needs to be informed by the specific circumstances of the activity and its environment. After receipt of this report the competent authority may also request the applicant to assess additional alternatives that could possibly accomplish the purpose and need of the proposed activity if it is clear that realistic alternatives have not been considered to a reasonable extent.

Paragraphs 3 – 13 below should be completed for each alternative

In terms of the potential alternatives the following applies:

Due to the existing power station infrastructure location and the proposed retrofitting methodology, there are no siting alternatives for the FFP retrofits that can be considered as the location of the existing ESP's are behind the boiler house (**Figure 4**) and the methodology requires that the Fabric Filter Plant is installed within the existing ESP casings. No siting alternatives were identified for the new compressor house either due to the fact that the compressor house should be as close to the units as possible.

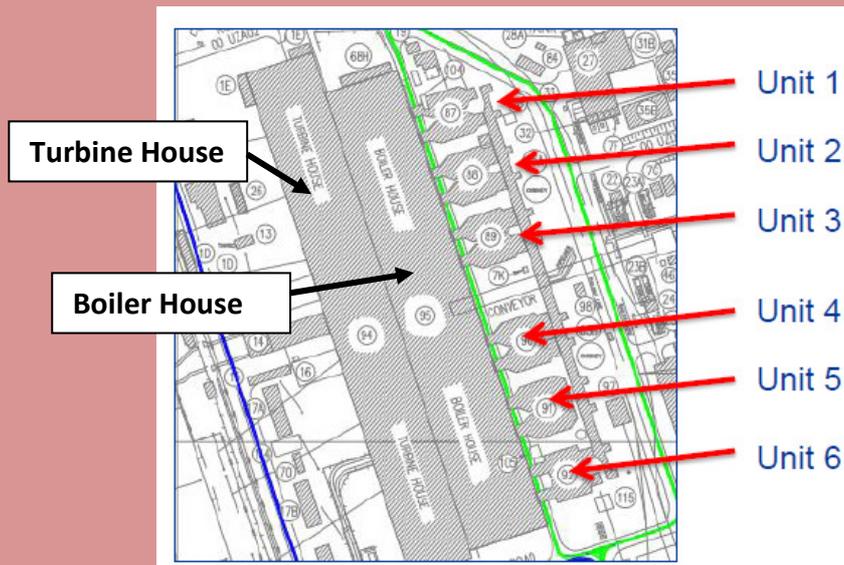


Figure 4: Location of the ESP units behind the boiler house. Unit 2, 3 and 4 fall within this Basic Assessment. Units 1, 5 and 6 have already been retrofitted during the Return to Service that started in 2005.

Due to the constraints with existing structures on site, the technology chosen has to fit within the existing casing of the existing ESP. Therefore no design layout alternatives are feasible and the FFP will be installed inside the existing ESP casing. The FFP will however, result in a height increase of 1.1m.

In terms of technology alternatives there are only two alternatives available. The first is the proposed FFP technology which is to install a Fabric Filter Plant in order to reduce particulate emissions. The second is the “no-go” alternative where the status quo remains in place i.e. the ESP technology remains in use. In view of continuous environmental improvement of its operations, Grootvlei Power Station is motivating the change from ESP to FFP technology. **Table 1** below provides a brief comparison of the ESP and FFP technology.

Figure 5 provides an illustration of what the inside of a fabric filter plant looks like.

Table 1: The difference between an Electrostatic Precipitator and a Fabric Filter Plant

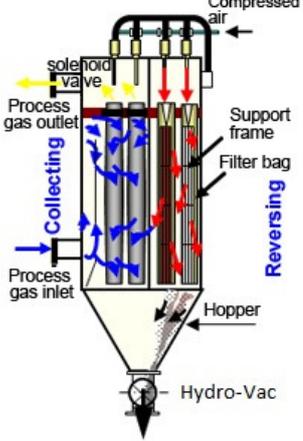
Electrostatic Precipitator	Fabric Filter Plant
	
<p>The dust -laden process gas enters the electrostatic precipitator horizontally and is spread across the entire filter cross-section in a uniform flow profile by a gas distribution screen. By applying high voltage to the electrodes located between the collection plates, an electric field is created that charges the dust/ash particles.</p> <p>Passing through the electric field, the charged particles are transported by electric field strength to the collecting plates, where they agglomerate with previously separated dust particles and finally are dislodged off by the mechanical rapping system. The dislodged dust particles drop into the filter hopper and are removed via the dust handling system, and disposed of at the ash disposal facility.</p>	<p>A fabric filter plant consists of several filter bags made of filter cloth sewn into cylindrical shapes and support frames that support the filter cloth.</p> <p>Process gas is filtered on the surface of the filter cloth, and purified gas flows out.</p> <p>The collected dust is removed from the filter cloth through cleaning methods such as the pulse-jet method, whereby high pressure jets of compressed air are pulsed into the filter bags causing the dust collected on the outside of the bags to drop into the filter hopper and are removed via the dust handling system, and disposed of at the ash disposal facility.</p>



Figure 5: Inside a typical fabric filter plant

3. ACTIVITY POSITION

Indicate the position of the activity using the latitude and longitude of the centre point of the site for each alternative site. The co-ordinates should be in degrees and decimal minutes. The minutes should have at least three decimals to ensure adequate accuracy. The projection that must be used in all cases is the WGS84 spheroid in a national or local projection.

List alternative sites, if applicable.

Alternative:

Alternative S1² (preferred or only site alternative) (**approximate centre point**)

Alternative S2 (if any)

Alternative S3 (if any)

Latitude (S):

Longitude (E):

26°	46' 8.86"	28°	29' 48.16"
0	'	0	'
0	'	0	'

In the case of linear activities:

Alternative:

Alternative S1 (preferred or only route alternative)

- Starting point of the activity
- Middle/Additional point of the activity
- End point of the activity

Alternative S2 (if any)

- Starting point of the activity
- Middle/Additional point of the activity
- End point of the activity

Alternative S3 (if any)

- Starting point of the activity
- Middle/Additional point of the activity
- End point of the activity

Latitude (S):

Longitude (E):

°	'	°	'
°	'	°	'
°	'	°	'

°	'	°	'
°	'	°	'
°	'	°	'

°	'	°	'
°	'	°	'
°	'	°	'

For route alternatives that are longer than 500m, please provide an addendum with co-ordinates taken every 250 meters along the route for each alternative alignment.

4. PHYSICAL SIZE OF THE ACTIVITY

Indicate the physical size of the preferred activity/technology as well as alternative activities/technologies (footprints):

Alternative:

Alternative A1³ (preferred activity alternative)

	Size of the activity:
Three units	1000 m ² (existing)
Compressor house	250 m ² (new)
Workshop	2000 m ² (new)
Alternative A2 (if any)	m ²
Alternative A3 (if any)	m ²

Alternative A2 (if any)

Alternative A3 (if any)

² "Alternative S.." refer to site alternatives.

³ "Alternative A.." refer to activity, process, technology or other alternatives.

or, for linear activities:

Alternative:

Alternative A1 (preferred activity alternative)

Alternative A2 (if any)

Alternative A3 (if any)

Length of the activity:

m
m
m

Indicate the size of the alternative sites or servitudes (within which the above footprints will occur):

Alternative:

Alternative A1 (preferred activity alternative)

Alternative A2 (if any)

Alternative A3 (if any)

Size of the site/servitude:

m ²
m ²
m ²

5. SITE ACCESS

Does ready access to the site exist? **(FFPs and Fabrication Warehouse)**

YES	
-----	--

Does ready access to the site exist? **(New Compressor House)**

	NO
--	----

If NO, what is the distance over which a new access road will be built

10 m

Describe the type of access road planned:

A short 10m, 2-lane paved road (with a maximum width of 6 m) will be built to access the new compressor house

Include the position of the access road on the site plan and required map, as well as an indication of the road in relation to the site.

6. SITE OR ROUTE PLAN

A detailed site or route plan(s) must be prepared for each alternative site or alternative activity. It must be attached as **Appendix A** to this document.

The site or route plans must indicate the following:

- 6.1 the scale of the plan which must be at least a scale of 1:500;
- 6.2 the property boundaries and numbers of all the properties within 50 metres of the site;
- 6.3 the current land use as well as the land use zoning of each of the properties adjoining the site or sites;
- 6.4 the exact position of each element of the application as well as any other structures on the site;
- 6.5 the position of services, including electricity supply cables (indicate above or underground), water supply pipelines, boreholes, street lights, sewage pipelines, storm water infrastructure and telecommunication infrastructure;
- 6.6 all trees and shrubs taller than 1.8 metres;
- 6.7 walls and fencing including details of the height and construction material;
- 6.8 servitudes indicating the purpose of the servitude;
- 6.9 sensitive environmental elements within 100 metres of the site or sites including (but not limited thereto):
 - rivers;
 - the 1:100 year flood line (where available or where it is required by DWA);

- ridges;
 - cultural and historical features;
 - areas with indigenous vegetation (even if it is degraded or invested with alien species);
- 6.10 for gentle slopes the 1 metre contour intervals must be indicated on the plan and whenever the slope of the site exceeds 1:10, the 500mm contours must be indicated on the plan; and
- 6.11 the positions from where photographs of the site were taken.

7. SITE PHOTOGRAPHS

Colour photographs from the centre of the site must be taken in at least the eight major compass directions with a description of each photograph. Photographs must be attached under **Appendix B** to this form. It must be supplemented with additional photographs of relevant features on the site, if applicable.

8. FACILITY ILLUSTRATION

A detailed illustration of the activity must be provided at a scale of 1:200 as **Appendix C** for activities that include structures. The illustrations must be to scale and must represent a realistic image of the planned activity. The illustration must give a representative view of the activity.

9. ACTIVITY MOTIVATION

9(a) Socio-economic value of the activity

What is the expected capital value of the activity on completion?	R 640.1 Million
What is the expected yearly income that will be generated by or as a result of the activity?	0
Will the activity contribute to service infrastructure?	YES
Is the activity a public amenity?	YES
How many new employment opportunities will be created in the development phase of the activity?	918
What is the expected value of the employment opportunities during the development phase?	R 171 Million
What percentage of this will accrue to previously disadvantaged individuals?	50%
How many permanent new employment opportunities will be created during the operational phase of the activity?	0
What is the expected current value of the employment opportunities during the first 10 years?	0
What percentage of this will accrue to previously disadvantaged individuals?	N/A

9(b) Need and desirability of the activity

Motivate and explain the need and desirability of the activity (including demand for the activity):

NEED:			
1.	Was the relevant provincial planning department involved in the application?	YES	
2.	Does the proposed land use fall within the relevant provincial planning framework?	YES	
3.	If the answer to questions 1 and / or 2 was NO, please provide further motivation / explanation:		

DESIRABILITY:			
1.	Does the proposed land use / development fit the surrounding area?	YES	
2.	Does the proposed land use / development conform to the relevant structure plans, SDF and planning visions for the area?	YES	
3.	Will the benefits of the proposed land use / development outweigh the negative impacts of it?	YES	
4.	If the answer to any of the questions 1-3 was NO, please provide further motivation / explanation:		
5.	Will the proposed land use / development impact on the sense of place?		NO
6.	Will the proposed land use / development set a precedent?		NO
7.	Will any person's rights be affected by the proposed land use / development?		NO
8.	Will the proposed land use / development compromise the "urban edge"?		NO
9.	If the answer to any of the question 5-8 was YES, please provide further motivation / explanation.		

BENEFITS:			
1.	Will the land use / development have any benefits for society in general?	YES	
2.	Explain: The proposed development will reduce the Particulate Matter emissions from the Grootvlei Power Station due to the installation of a more efficient particulate abatement technology. The improved air quality will be a positive impact for the surrounding area and the environment. The implementation of the new technology will also allow for compliance with the relevant Minimum Emission Standard.		
3.	Will the land use / development have any benefits for the local communities where it will be located?	YES	
4.	Explain: The installation of the FFP will reduce Particulate Matter emissions from the power station, reducing the potential for health impacts to the surrounding Community. There will also be limited employment opportunities during the construction phase.		

10. APPLICABLE LEGISLATION, POLICIES AND/OR GUIDELINES

List all legislation, policies and/or guidelines of any sphere of government that are applicable to the application as contemplated in the EIA regulations, if applicable:

Title of legislation, policy or guideline:	Administering authority:	Date:
Constitution of South Africa (Act No. 108 Of 1996)	National Government	1996
Environment Conservation Act (Act No. 73 Of 1989)	National Department of Environmental Affairs	1989
National Environmental Management Act (Act No. 107 Of 1998)	National Department of Environmental Affairs	1998
National Environmental Management: Air Quality Act (Act No. 39 of 2004)	National Department of Environmental Affairs	2004
National Environmental Management: Waste Act (Act No. 59 of 2008)	National Department of Environmental Affairs	2008
Occupational Health and Safety Act (Act No. 85 Of 1993)	Department of Health	1993
National Environmental Management Amendment Act No. 8 of 2004	National Department of Environmental Affairs	2004

11. WASTE, EFFLUENT, EMISSION AND NOISE MANAGEMENT

11(a) Solid waste management

Will the activity produce solid construction waste during the construction/initiation phase? **YES**

If yes, what estimated quantity will be produced per month?

Steel – in total	340 tons
Concrete – in total	1200 tons
Cables – in total	4.54 tons
Transformers – in total	8

How will the construction solid waste be disposed of (describe)?

Waste will be disposed of in accordance with the Grootvlei Power Station’s waste management procedures. These procedures have been attached in Appendix G

Where will the construction solid waste be disposed of (describe)?

Waste will be disposed of in accordance with the Grootvlei Power Station’s waste management procedures. These procedures have been attached in Appendix G

Will the activity produce solid waste during its operational phase? **YES**

If yes, what estimated quantity will be produced per month?

Bags – every 36000 operational hours per unit	9744 bags
--	------------------

How will the solid waste be disposed of (describe)?

Waste will be disposed of in accordance with the Grootvlei Power Station’s waste management procedures. These procedures have been attached in Appendix G

Where will the solid waste be disposed if it does not feed into a municipal waste stream (describe)?

Waste will be disposed of in accordance with the Grootvlei Power Station’s waste management procedures. These procedures have been attached in Appendix G

If the solid waste (construction or operational phases) will not be disposed of in a registered landfill site or be taken up in a municipal waste stream, then the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

Can any part of the solid waste be classified as hazardous in terms of the relevant legislation? **YES**

If yes, inform the competent authority and request a change to an application for scoping and EIA.

The waste filter bags are classified as hazardous waste and will be disposed of at a licensed hazardous waste site (i.e. Holfontein) in accordance with the power station's waste procedures. These procedures have been attached in Appendix G?

Is the activity that is being applied for a solid waste handling or treatment facility? **NO**

If yes, then the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

11(b) Liquid effluent

Will the activity produce effluent, other than normal sewage, that will be disposed of in a municipal sewage system? **NO**

If yes, what estimated quantity will be produced per month?

Will the activity produce any effluent that will be treated and/or disposed of on site? **Yes**

If yes, what estimated quantity will be produced?

Oil – per unit during maintenance cycles – once every 72 months 600 Litres

Additional Ash from new FFPs Approx. 1.39 tons per hour extra

If yes, the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

It is estimated that with the retrofitting of the existing ESPs to FFPs an additional 1.39 tons of ash per hour will be captured by the process and disposed of at the existing ash disposal facilities, which are capacitated, and as per current practice.

Will the activity produce effluent that will be treated and/or disposed of at another facility? **NO**

If yes, provide the particulars of the facility:

Facility name:
 Contact person:
 Postal address:
 Postal code:
 Telephone:
 E-mail:
 Cell:
 Fax:

Describe the measures that will be taken to ensure the optimal reuse or recycling of waste water, if any:

Grootvlei Power Station utilises a wet ash disposal system. This process will not be changed and will continue to operate as it is at present.

13. ENERGY EFFICIENCY

Describe the design measures, if any, that have been taken to ensure that the activity is energy efficient:

Eskom has an energy efficiency drive within the organization. Within the design processes followed by the organization, multiple considerations are taken on energy efficiencies. High focus areas are medium voltage motors and plant lighting.

Describe how alternative energy sources have been taken into account or been built into the design of the activity, if any:

No alternative energy sources are available for this activity.

SECTION B: SITE/AREA/PROPERTY DESCRIPTION

Important notes:

1. For linear activities (pipelines, etc) as well as activities that cover very large sites, it may be necessary to complete this section for each part of the site that has a significantly different environment. In such cases please complete copies of Section C and indicate the area, which is covered by each copy No. on the Site Plan.

Section C Copy No.
(e.g. A):

2. Paragraphs 1 - 6 below must be completed for each alternative.

3. Has a specialist been consulted to assist with the completion of this section?

If YES, please complete the form entitled "Details of specialist and declaration of interest"

for each specialist thus appointed:

All specialist reports must be contained in Appendix D.

Property description/physical address:

Grootvlei Power Station

- **SG CODE: T0IR00000000045700000**
- **FARM NO: 457**
- **FARM NAME: 457 IR**
- **PORTION: 00000**
- **MAJOR REGION: IR**
- **MUNICIPALITY: Balfour**
- **PROVINCE: Mpumalanga**

(Farm name, portion etc.) Where a large number of properties are involved (e.g. linear activities), please attach a full list to this application.

In instances where there is more than one town or district involved, please attach a list of towns or districts to this application.

Current land-use zoning:

Industrial

In instances where there is more than one current land-use zoning, please attach a list of current land use zonings that also indicate which portions each use pertains to , to this application.

Is a change of land-use or a consent use application required?

Must a building plan be submitted to the local authority?

Locality map:

An A3 locality map must be attached to the back of this document, as **Appendix A**. The scale of the locality map must be relevant to the size of the development (at least 1:50 000. For linear activities of more than 25 kilometres, a smaller scale e.g. 1:250 000 can be used. The scale must be indicated on the map.) The map must indicate the following:

- an indication of the project site position as well as the positions of the alternative sites, if any;
- road access from all major roads in the area;
- road names or numbers of all major roads as well as the roads that provide access to the site(s);
- all roads within a 1km radius of the site or alternative sites; and
- a north arrow;
- a legend; and
- locality GPS co-ordinates (Indicate the position of the activity using the latitude and longitude of the centre point of the site for each alternative site. The co-ordinates should be in degrees and decimal minutes. The minutes should have at least three decimals to ensure adequate accuracy. The projection that must be used in all cases is the WGS84 spheroid in a national or local projection)

1. GRADIENT OF THE SITE

Indicate the general gradient of the site.

Alternative S1:

Flat	1:50	–	1:20	–	1:15 – 1:10	1:10	–	1:7,5 – 1:5	Steeper than
	1:20		1:15			1:7,5			1:5

Alternative S2 (if any):

Flat	1:50	–	1:20	–	1:15 – 1:10	1:10	–	1:7,5 – 1:5	Steeper than
	1:20		1:15			1:7,5			1:5

Alternative S3 (if any):

Flat	1:50	–	1:20	–	1:15 – 1:10	1:10	–	1:7,5 – 1:5	Steeper than
	1:20		1:15			1:7,5			1:5

2. LOCATION IN LANDSCAPE

Indicate the landform(s) that best describes the site:

2.1 Ridgeline

2.2 Plateau

2.3 Side-slope of hill/mountain

2.4 Closed valley

2.5 Open valley

2.6 Plain

2.7 Undulating plain / low hills

2.8 Dune

2.9 Seafront

3. GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE

Is the site(s) located on any of the following (tick the appropriate boxes)?

	Alternative S1:	Alternative S2 (if any):	Alternative S3 (if any):
Shallow water table (less than 1.5m deep)	NO		
Dolomite, sinkhole or doline areas	NO		
Seasonally wet soils (often close to water bodies)	NO		
Unstable rocky slopes or steep slopes with loose soil	NO		
Dispersive soils (soils that dissolve in water)	NO		
Soils with high clay content (clay fraction more than 40%)	NO		
Any other unstable soil or geological feature	NO		
An area sensitive to erosion	NO		

If you are unsure about any of the above or if you are concerned that any of the above aspects may be an issue of concern in the application, an appropriate specialist should be appointed to assist in the completion of this section. (Information in respect of the above will often be available as part of the project information or at the planning sections of local authorities. Where it exists, the 1:50 000 scale Regional Geotechnical Maps prepared by the Council for Geo Science may also be consulted).

4. GROUNDCOVER

Indicate the types of groundcover present on the site:

The location of all identified rare or endangered species or other elements should be accurately indicated on the site plan(s).

Natural veld - good condition ^E	Natural veld with scattered aliens ^E	Natural veld with heavy alien infestation ^E	Veld dominated by alien species (at the Workshop site only)	Gardens
Sport field	Cultivated land	Paved surface (at the Compressor house)	Building or other structure (the existing casings)	Bare soil (at the Workshop site only)

If any of the boxes marked with an “E” is ticked, please consult an appropriate specialist to assist in the completion of this section if the environmental assessment practitioner doesn’t have the necessary expertise.

5. LAND USE CHARACTER OF SURROUNDING AREA

Indicate land uses and/or prominent features that does currently occur within a 500m radius of the site and give description of how this influences the application or may be impacted upon by the application:

5.1 Natural area

5.2 Low density residential

5.3 Medium density residential

5.4 High density residential

5.5 Informal residential^A

5.6 Retail commercial & warehousing

5.7 Light industrial

5.8 Medium industrial^{AN}

5.9 Heavy industrial^{AN}

5.10 Power station

5.11 Office/consulting room

5.12 Military or police base/station/compound

5.13 Spoil heap or slimes dam^A

5.14 Quarry, sand or borrow pit

5.15 Dam or reservoir

5.16 Hospital/medical centre

5.17 School

5.18 Tertiary education facility

5.19 Church

5.20 Old age home

5.21 Sewage treatment plant^A

5.22 Train station or shunting yard^N

5.23 Railway line^N

5.24 Major road (4 lanes or more)^N

5.25 Airport^N

5.26 Harbour

5.27 Sport facilities

5.28 Golf course

5.29 Polo fields

5.30 Filling station^H

5.31 Landfill or waste treatment site

5.32 Plantation

5.33 Agriculture

5.34 River, stream or wetland

5.35 Nature conservation area

5.36 Mountain, koppie or ridge

5.37 Museum

5.38 Historical building

5.39 Protected Area

5.40 Graveyard

5.41 Archaeological site

5.42 Other land uses (describe)

The following photos provide some insight into the land use character of the surrounding area



If any of the boxes marked with an "N" are ticked, how will this impact / be impacted upon by the proposed activity?

If YES, specify and explain:

The railway line will in no way impact on or be impacted on by the proposed FFP retrofitting activities at the Grootvlei power station.

If any of the boxes marked with an "An" are ticked, how will this impact / be impacted upon by the proposed activity?

If YES, specify and explain:

If any of the boxes marked with an "H" are ticked, how will this impact / be impacted upon by the proposed activity?

If YES, specify and explain:

6. CULTURAL/HISTORICAL FEATURES

Are there any signs of culturally or historically significant elements, as defined in section 2 of the National Heritage Resources Act, 1999, (Act No. 25 of 1999), including Archaeological or palaeontological sites, on or close (within 20m) to the site?

NO

If YES, explain:

If uncertain, conduct a specialist investigation by a recognised specialist in the field to establish whether there is such a feature(s) present on or close to the site.

Briefly explain the findings of the specialist:

Will any building or structure older than 60 years be affected in any way?

NO

Is it necessary to apply for a permit in terms of the National Heritage Resources Act, 1999 (Act 25 of 1999)?

NO

If yes, please submit or, make sure that the applicant or a specialist submits the necessary application to SAHRA or the relevant provincial heritage agency and attach proof thereof to this application if such application has been made.

SECTION C: PUBLIC PARTICIPATION

1. ADVERTISEMENT

The person conducting a public participation process must take into account any guidelines applicable to public participation as contemplated in section 24J of the Act and must give notice to all potential interested and affected parties of the application which is subjected to public participation by—

- (a) fixing a notice board (of a size at least 60cm by 42cm; and must display the required information in lettering and in a format as may be determined by the competent authority) at a place conspicuous to the public at the boundary or on the fence of—
 - (i) the site where the activity to which the application relates is or is to be undertaken; and
 - (ii) any alternative site mentioned in the application;
- (b) giving written notice to—
 - (i) the owner or person in control of that land if the applicant is not the owner or person in control of the land;
 - (ii) the occupiers of the site where the activity is or is to be undertaken or to any alternative site where the activity is to be undertaken;
 - (iii) owners and occupiers of land adjacent to the site where the activity is or is to be undertaken or to any alternative site where the activity is to be undertaken;
 - (iv) the municipal councillor of the ward in which the site or alternative site is situated and any organisation of ratepayers that represent the community in the area;
 - (v) the municipality which has jurisdiction in the area;
 - (vi) any organ of state having jurisdiction in respect of any aspect of the activity; and
 - (vii) any other party as required by the competent authority;
- (c) placing an advertisement in—
 - (i) one local newspaper; or
 - (ii) any official *Gazette* that is published specifically for the purpose of providing public notice of applications or other submissions made in terms of these Regulations;
- (d) placing an advertisement in at least one provincial newspaper or national newspaper, if the activity has or may have an impact that extends beyond the boundaries of the metropolitan or local municipality in which it is or will be undertaken: Provided that this paragraph need not be complied with if an advertisement has been placed in an official *Gazette* referred to in subregulation 54(c)(ii); and
- (e) using reasonable alternative methods, as agreed to by the competent authority, in those instances where a person is desiring of but unable to participate in the process due to—
 - (i) illiteracy;
 - (ii) disability; or
 - (iii) any other disadvantage.

2. CONTENT OF ADVERTISEMENTS AND NOTICES

A notice board, advertisement or notices must:

- (a) indicate the details of the application which is subjected to public participation; and
- (b) state—

- (i) that the application has been submitted to the competent authority in terms of these Regulations, as the case may be;
- (ii) whether basic assessment or scoping procedures are being applied to the application, in the case of an application for environmental authorisation;
- (iii) the nature and location of the activity to which the application relates;
- (iv) where further information on the application or activity can be obtained; and
- (iv) the manner in which and the person to whom representations in respect of the application may be made.

3. PLACEMENT OF ADVERTISEMENTS AND NOTICES

Where the proposed activity may have impacts that extend beyond the municipal area where it is located, a notice must be placed in at least one provincial newspaper or national newspaper, indicating that an application will be submitted to the competent authority in terms of these regulations, the nature and location of the activity, where further information on the proposed activity can be obtained and the manner in which representations in respect of the application can be made, unless a notice has been placed in any *Gazette* that is published specifically for the purpose of providing notice to the public of applications made in terms of the EIA regulations.

Advertisements and notices must make provision for all alternatives.

An advert notifying the public of the Basic Assessment Process and the Basic Assessment Report review opportunity were placed in the following newspapers:

- Heidelberg & Nigel Rekord
- Heraut Newspaper

A copy of the advert is included in Appendix G.

Site notices have also been erected at the following places:

- Power Station Reception
- Damandi Supermarket
- Village Supermarket
- Balfour Library
- Dipaleseng Local Municipality

The Basic Assessment report was placed at the following public places for review from 10 July 2012 to 7 August 2012:

- Balfour Public Library
- Grootvlei Power Station Main Gate Reception
- Lidwala Website (www.lidwala.com)
- Eskom EIA website (<http://www.eskom.co.za/c/44/environmental-impact-assessments/>)

The following photos were taken as proof of site notice placement: