



environmental affairs

Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

Environmental Authorisation

In terms of regulation 36 of the Environmental Impact Assessment Regulations, 2010

The proposed continuous ash disposal facility for Matimba Power Station in Lephalale, Limpopo Province

(Waterberg District Municipality)

Authorisation register number:	<i>14/12/16/3/3/3/56</i>
NEAS reference number:	<i>DEA/EIA/0001442/2012</i>
Last amended:	<i>First issue</i>
Holder of authorisation:	<i>ESKOM HOLDINGS SOC LIMITED</i>
Location of activity:	<i>LIMPOPO PROVINCE: Within Lephalale Local Municipality</i>

This authorisation does not negate the holder of the authorisation's responsibility to comply with any other statutory requirements that may be applicable to the undertaking of the activity.

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1. Decision

The Department is satisfied, on the basis of information available to it and subject to compliance with the conditions of this integrated environmental authorisation ("the environmental authorisation") that the applicant should be authorised to undertake the NEMA EIA and NEMWA listed activities specified below.

Non-compliance with a condition of this authorisation may result in criminal prosecution or other actions provided for in the National Environmental Management Act, 1998 and the EIA regulations.

Details regarding the basis on which the Department reached this decision are set out in Annexure 1 to this environmental authorisation.

2. NEMA EIA AND NEMWA ACTIVITIES AUTHORISED

By virtue of the powers conferred on it by the National Environmental Management Act, 1998 (Act 107 of 1998) and the Environmental Impact Assessment Regulations, 2010, NEMWA and Government Notice 921 of November 2013 the Department hereby authorises—

ESKOM HOLDINGS SOC LIMITED

with the following contact details—

Ms Deidre Herbst
Eskom Holdings SOC Limited
PO Box 1091
Johannesburg
2000

Tel: (011) 800 3501
Fax: (086) 660 6092
Cell: (083) 660 1147
E-mail: deidre.herbst@eskom.co.za

to undertake the following activities (hereafter referred to as "the activity") indicated in Listing Notices 1, 2 or 3 (GN R. 544, 545 & 546):

Listed activities	Activity/Project description
<p><u>GN R. 544 Item 9</u></p> <p><i>The construction of facilities or infrastructure exceeding 1000 meters in length for the bulk transportation of water, sewage or stormwater</i></p> <p><i>(i) with an internal diameter of 0.36 meters or more or</i></p> <p><i>(ii) with a peak throughput of 120 litres per second or more.</i></p>	<p>Stormwater channels or berms will be required for the diversion of stormwater run-off to the new or existing pollution control dams.</p>
<p><u>GN R. 544 Item 11:</u></p> <p>Activity 11:</p> <p><i>The construction of:</i></p> <p><i>(ii) channels;</i></p> <p><i>(iv) dams;</i></p> <p><i>(vi) bulk stormwater outlet structures;</i></p> <p><i>(x) buildings exceeding 50 square meters in size; or</i></p> <p><i>(xi) infrastructure or structures covering 50 square meters or more where such construction occurs within a watercourse or within 32 metres of a watercourse, measured from the edge of a watercourse, excluding where such construction will occur behind the development.</i></p>	<p>For Site Alternative 1 – this activity is applicable to the construction of stormwater channels and leachate collection pipes that are constructed within a watercourse, or within 32 m of a watercourse.</p> <p>For Site Alternative 2 – this activity is applicable to the construction of stormwater channels, leachate collection pipes and pollution control dam that are constructed within a watercourse, or within 32 m of a watercourse.</p>
<p><u>GN R. 544 Item 18:</u></p> <p><i>The infilling or depositing of any material of more than 5 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock or more than 5 cubic metres from</i></p>	<p>Infilling or depositing of material exceeding the 5 cubic meter threshold into a watercourse.</p>

Listed activities	Activity/Project description
<i>(i) a watercourse</i>	
<p><u>GN R. 544 Item 22:</u></p> <p><i>The construction of a road, outside urban areas,</i></p> <p><i>(i) with a reserve wider than 13,5 meters or,</i></p> <p><i>(ii) where no reserve exists where the road is wider than 8 metres, or</i></p> <p><i>(iii) for which an environmental authorisation was obtained for the route determination in terms of activity 5 in Government Notice 387 of 2006 or activity 18 in Notice 545 of 2010.</i></p>	<p>For Site Alternative 1 – construction of haul roads to allow for easy access to the dump for loading and maintenance.</p> <p>For Site Alternative 2 – construction of haul roads to allow for easy access to the dump for loading and maintenance as well as access to the conveyor belt route for maintenance purposes.</p>
<p><u>GN R. 544 Item 28:</u></p> <p>The expansion of or changes to existing facilities for any process or activity where such expansion will result in the need for a permit or licence 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</p>	<p>A Water Use Licence (WUL) will need to be applied for the proposed Ash Disposal Facility (ADF) operations.</p>
<p><u>GN R. 544 Item 37:</u></p> <p>The expansion of facilities or infrastructure for the bulk transportation of water, sewage or stormwater where:</p> <p>a) the facility or infrastructure is expanded by more than 1000 meters in length; or</p> <p>b) where the throughput capacity of the facility or infrastructure</p>	<p>Expansion of existing stormwater channels will be required for the diversion of stormwater run-off to the new or existing pollution control</p>

Listed activities	Activity/Project description
will be increased by 10% or more.	dams.
<p><u>GN R. 544 Item 39:</u> The expansion of (ii) channels; (v) bulk stormwater outlet structures; within a watercourse or within 32 m of a watercourse, measured from the edge of a watercourse, where such expansion will result in an increased development footprint but excluding where such expansion will occur behind the development setback line.</p>	<p>If SA1 is selected as the preferred site then existing stormwater channels may be expanded. This activity is applicable if the expansion occurs within a watercourse or within 32 m of a watercourse.</p>
<p><u>GN R. 544 Item 40:</u> The expansion of: (iv) infrastructure or structures covering 50 square meters or more where such construction occurs within a watercourse or within 32 metres of a watercourse, measured from the edge of a watercourse, excluding where such construction will occur behind the development setback line</p>	<p>This activity is applicable to Site Alternative 1 if existing infrastructure is expanded.</p>
<p><u>GN R. 544 Item 47:</u> The widening of a road by more than 6 meters or the lengthening of a road by more than 1 kilometre where no reserve exists, where the existing reserve is wider than 13,5 meters or where the existing road is wider than 8 meters.</p>	<p>Access roads may be widened in order to reach all sections of the ADF during the construction and operational (maintenance) phases of the project.</p>
<p><u>GN R. 544 Item 49:</u> The expansion of facilities or infrastructure for the bulk transportation of dangerous goods in solid form, outside an industrial complex or zone, by an increased throughput capacity of 50 tons or more per day.</p>	<p>The overland ash conveyor facilities may be expanded if Site Alternative 1 is selected for continuous ashing.</p>
<p><u>GN R. 545. Item 3:</u></p>	<p>Diesel may be stored at the site for the fuelling of</p>

Listed activities	Activity/Project description
The construction of facilities or infrastructure for the storage, or storage and handling, of a dangerous good, where such storage occurs in containers with a combined capacity of more than 500 cubic metres.	construction vehicles and equipment. Quantities have not been determined.
<p><u>GN R. 545 Item 6:</u></p> <p>The construction of facilities or infrastructure for the bulk transportation of dangerous goods –</p> <p>(iii) in solid form, outside an industrial complex, using funiculars or conveyors with a throughput capacity of more than 50 tons day.</p>	Construction of a new conveyor (that forms part of the linear infrastructure route) to transport ash to SA2.
<p><u>GN R. 545 Item 15:</u></p> <p>Physical alteration of undeveloped, vacant or derelict land for residential, retail, commercial, recreational, industrial or institutional use where the total area to be transformed is 20 hectares or more.</p>	<p>SA1 - approximately 510 ha is available as a greenfields site with the remaining 190 ha being available through construction of the new ADF over the existing ADF by piggy-backing.</p> <p>SA2 - approximately 660 ha will be needed for the development of the facility.</p>
<p><u>GN R. 546 Item 4:</u></p> <p>The construction of a road wider than 4 metres with a reserve less than 13.5 metres.</p> <p>(a) In Limpopo province:</p> <p>ii. Outside urban areas, in:</p> <p>(cc) Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority;</p> <p>(gg) Areas within 10 kilometres from national parks or world heritage sites or 5 kilometres from any other protected area identified in terms of NEMPAA or from the core areas of a biosphere reserve.</p>	SA1 is 4 km from the eastern edge of the Tierkop Private Nature Reserve. According to the Limpopo C Plan metadata, this area is designated as a nature reserve.

Listed activities	Activity/Project description
<p><u>GN R. 546 Item 16:</u> The construction of infrastructure covering 10 square meters or more where such construction occurs within a watercourse or within 32 meters of a watercourse, measured from the edge of a watercourse, excluding where such construction will occur behind the development setback line.</p> <p>(a) In Limpopo.</p> <p>ii. Outside urban areas, in:</p> <p>(dd) Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority;</p> <p>(hh) Areas within 10 kilometres from national parks or world heritage sites or 5 kilometres from any other protected area identified in terms of NEMPAA or from the core area of a biosphere reserve.</p>	<p>SA1 is 4 km from the eastern edge of the Tierkop Private Nature Reserve. According to the Limpopo C Plan metadata, this area is designated as a nature Reserve.</p>

-for authorisation in terms of the GN R. 921 of November 2013 to carry out the following activities:

Listed activities	Activity/Project description
<p><u>GN R. 921 Category B (1):</u> The storage including the temporary storage of hazardous waste in lagoons.</p>	<p>A new pollution control dam will need to be constructed if SA2 is selected as the preferred option</p>
<p><u>GN R. 921 Category B (7):</u> The disposal of any quantity of hazardous waste to land</p>	<p>Ash classified as being hazardous will be disposed of at either the existing ADF (SA1) or a new ADF (SA2).</p>
<p>GN R. 921 Category B (10): The construction of facilities for activities listed in category b of this schedule (not in isolation to associated activity).</p>	<p>Applicable to the construction of a new ADF or the expansion of the existing ADF.</p>

as described in the Final Environmental Impact report (FIEAR) dated December 2015 at:

Alternative S1	Latitude (S)	Longitude (E)
First corner	23°42.33' 33.48"S	27° 34' 43.83"E
Second corner	23°42' 2.66"S	27° 36' 50.78"E
Third corner	23°43' 5.09"S	27° 37' 5.94"E
Fourth corner	23°43' 35.63"S	27° 34'58.93"E

- for the proposed continuous ashing on the existing ash disposal facility at Matimba Power Station, Limpopo Province.

The infrastructure associated with this facility includes:

- The ash (coarse and fly ash) generated through the combustion of coal at the power station is transported through a series of conveyors (Coarse ash, Transverse, Cross and Overland conveyors) to the ADF located on the farm Zwartwater 507 LQ;
- At the ADF, the ash conveyor system consists of two conveyor systems running parallel to each other;
- The first system serves the front system (Spreader) and the second system serves the back system (Stacker) and these systems are interchangeable at the transfer houses until Transfer House 6 where the ash will be placed onto a specific system (either the main or standby system).

3. Conditions of this Environmental Authorisation

Scope of authorisation

- 3.1. The preferred site alternative 1 (S1) for the proposed continuous ashing on the existing ash disposal facility at Matimba Power Station, Limpopo Province is hereby approved.
- 3.2. Authorisation of the activity is subject to the conditions contained in this authorisation, which form part of the environmental authorisation and are binding on the holder of the authorisation.
- 3.3. The holder of the authorisation is responsible for ensuring compliance with the conditions contained in this environmental authorisation. This includes any person acting on the holder's behalf, including but not limited to, an agent, servant, contractor, sub-contractor, employee, consultant or person rendering a service to the holder of the authorisation.
- 3.4. The activities authorised may only be carried out at the property as described above.

- 3.5. Any changes to, or deviations from, the project description set out in this authorisation must be approved, in writing, by the Department before such changes or deviations may be effected. In assessing whether to grant such approval or not, the Department may request such information as it deems necessary to evaluate the significance and impacts of such changes or deviations and it may be necessary for the holder of the authorisation to apply for further authorisation in terms of the regulations.
- 3.6. This activity must commence within a period of **05 years** from the date of issue of this authorisation. If commencement of the activity does not occur within that period, the authorisation lapses and a new application for environmental authorisation must be made in order for the activity to be undertaken.
- 3.7. Commencement with one activity listed in terms of this authorisation constitutes commencement of all authorised activities.
- 3.8. The holder of an environmental authorisation must apply for an amendment of environmental authorisation with the competent authority for any alienation, transfer or change of ownership rights in the property on which the activity is to take place.

4. Notification of authorisation and right to appeal

- 4.1. The holder of the authorisation must notify every registered interested and affected party, in writing and within 12 (twelve) calendar days of the date of this environmental authorisation, of the decision to authorise the activity.
 - 4.2. The notification referred to must –
 - 4.2.1. specify the date on which the authorisation was issued;
 - 4.2.2. inform the interested and affected party of the appeal procedure provided for in Chapter 7 of the Environmental Impact Assessment Regulations, 2010;
 - 4.2.3. advise the interested and affected party that a copy of the authorisation will be furnished on request; and
 - 4.2.4. give the reasons of the competent authority for the decision.
 - 4.3. The holder of the authorisation must publish a notice –
 - 4.3.1. informing interested and affected parties of the decision;
 - 4.3.2. informing interested and affected parties where the decision can be accessed; and
 - 4.3.3. drawing the attention of interested and affected parties to the fact that an appeal may be lodged against this decision in the newspaper(s) contemplated and used in terms of
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regulation 54(2) (c) and (d) and which newspaper was used for the placing of advertisements as part of the public participation process.

- 4.4. The holder of the environmental authorisation must, in writing, within 12 days of the date of the decision on the application–
- (a) notify all registered interested and affected parties of–
 - (i) the outcome of the application; and
 - (ii) the reasons for the decision;
 - (b) draw the attention of all registered interested and affected parties to the fact that an appeal may be lodged against the decision in terms of Chapter 7 of the NEMA EIA Regulations, 2010 if such appeal is available in the circumstances of the decision;
 - (c) draw the attention of all interested and affected parties to the manner in which they can access the decision; and
 - (d) publish a notice–
 - (i) informing interested and affected parties of the decision;
 - (ii) informing interested and affected parties where the decision can be accessed; and
 - (iii) drawing the attention of interested and affected parties to the fact that an appeal may be lodged against the decision in terms of Chapter 7 of the NEMA EIA Regulations, 2010, if such appeal is available under the circumstances of the decision; in the newspapers contemplated in regulation 54(2) (c) and (d) of the NEMA EIA Regulations, 2010 and which newspaper was used for the placing of advertisements as part of the public participation process.

5. Management of the activity

- 5.1. The Environmental Management Programme (EMPr) submitted as part of the application for EA is hereby approved. This EMPr must be implemented and adhered to.
- 5.2. Should there be changes in the operation and management of the authorised activities; the EMPr must be amended to accommodate those changes and be submitted to this Department for written approval before implementation incorporated as part of the EMPr. Once approved, the EMPr must be implemented and adhered to.
- 5.3. The approved EMPr and operational EMPr for the disposal facility must be implemented and strictly enforced during all phases of the project. It shall be seen as a dynamic document and shall be included in all contract documentation for all phases of the development.

- 5.4. Changes to the EMPr and the operational EMPr for the disposal facility which are environmentally defensible, shall be submitted to this Department for acceptance before such changes could be effected.
- 5.5. The Department reserves the right to request amendments to the EMPr and the operational EMPr for the disposal facility should any impacts that were not anticipated or covered in the EIR be discovered.
- 5.6. The provisions of the approved EMPr and the operational EMPr for the disposal facility including the mitigation measures identified in the EIR and specialist' studies shall be an extension of the conditions of this EA and therefore non-compliance with them would constitute non-compliance with the EA.
- 5.7. The ash disposal facility must be managed and operated:
 - 5.7.1. In accordance with an approved EMPr, that inter alia identifies and minimises risks of pollution, including those arising from operations, maintenance, accidents, incidents and non-conformances and those drawn to the attention of the holder of the environmental authorisation as a result of complaints;
 - 5.7.2. By sufficient persons who are competent in respect of the responsibilities to be undertaken by them in connection with the operation of the activities.

6. Monitoring

- 6.1. The applicant must appoint a suitably experienced independent Environmental Control Officer (ECO) for the construction phase of the development that will have the responsibility to ensure that the mitigation/rehabilitation measures and recommendations referred to in this authorisation are implemented and to ensure compliance with the provisions of the EMPr.
 - 6.2. The ECO shall be appointed before commencement of any authorised activities.
 - 6.3. Once appointed, the name and contact details of the ECO must be submitted to the *Director: Compliance Monitoring* of the Department.
 - 6.4. The ECO shall keep record of all activities on site, problems identified, transgressions noted and a task schedule of tasks undertaken by the ECO.
 - 6.5. The ECO shall remain employed until all rehabilitation measures, as required for implementation due to construction damage, are completed and the site is ready for operation.
 - 6.6. Records relating to monitoring and auditing must be kept on site and made available for inspection to any relevant and competent authority in respect of this development.
 - 6.7. The ECO must:
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- 6.7.1. Keep and maintain a detailed incident (including spillage of bitumen, fuels, chemicals, or any other material) and complaint register on site indicating how these issues were addressed, what rehabilitation measures were taken and what preventative measures were implemented to avoid re-occurrence of incidents/complaints.
- 6.7.2. Keep and maintain a daily site diary.
- 6.7.3. Keep copies of all reports submitted to the Department.
- 6.7.4. Keep and maintain a schedule of current site activities including the monitoring of such activities.
- 6.7.5. Obtain and keep record of all documentation, permits, licences and authorisations such as waste disposal certificates, hazardous waste landfill site licences etc. required by this facility.
- 6.7.6. Compile a monthly monitoring report.

7. WASTE MANAGEMENT CONTROL OFFICER (WMCO)

- 7.1. The applicant must designate a Waste Management Control Officer (WMCO) in writing, who will monitor and ensure compliance and correct implementation of all conditions and provisions as stipulated in the environmental authorisation and approved EMPr related to the ash disposal facility.
- 7.2. The WMCO must report any non-compliance with any environmental authorisation conditions or requirements or provisions of NEMWA to the Department through the means reasonably available.
- 7.3. The duties and responsibility of the WMCO should not be seen as exempting the holder of the environmental authorisation from the legal obligations in terms of the NEMWA.

8. Recording and reporting to the Department

- 8.1. The holder of this authorisation must keep all records relating to monitoring and auditing on site and make it available for inspection to any relevant and competent authority in respect of this development.
 - 8.2. All records and/or reports required or resulting from activities relating to this environmental authorisation must:
 - 8.2.1. be legible;
 - 8.2.2. be submitted as required and must form part of the external audit report;
 - 8.2.3. if amended, the record and/or report must be amended in such a way that the original and any subsequent amendments remain legible and are easily retrievable; and
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- 8.2.4. be retained in accordance with documented procedures which are approved by the Department.
- 8.3. All documentation e.g. audit/monitoring/compliance reports and notifications, required to be submitted to the Department in terms of this authorisation, must be submitted to the Director: Compliance Monitoring at the Department.
- 8.4. Records demonstrating compliance with conditions of this EA must be maintained for five years.
- 8.5. The holder of the environmental authorisation must keep records and update all the information referred to in Annexure II and submit this information to the Department on an annual basis.

9. ENVIRONMENTAL AUDIT REPORT FOR CONSTRUCTION

- 9.1 The holder of the authorisation must submit an environmental audit report to the Department within 30 days of completion of the construction phase (i.e. within 30 days of site handover) and within 30 days of completion of rehabilitation activities.
- 9.2 The environmental audit report must:
- 9.2.1 Be compiled by an independent environmental auditor;
- 9.2.2 Indicate the date of the audit, the name of the auditor and the outcome of the audit;
- 9.2.3 Evaluate compliance with the requirements of the approved EMPr and this environmental authorisation;
- 9.2.4 Include measures to be implemented to attend to any non-compliances or degradation noted;
- 9.2.5 Include copies of any approvals granted by other authorities relevant to the development for the reporting period;
- 9.2.6 Highlight any outstanding environmental issues that must be addressed, along with recommendations for ensuring these issues are appropriately addressed;
- 9.2.7 Include a copy of this authorisation and the approved EMPr;
- 9.2.8 Include all documentation such as waste disposal certificates, hazardous waste landfill site licences etc. pertaining to this authorisation; and
- 9.2.9 Include evidence of adherence to the conditions of this authorisation and the EMPr where relevant such as training records and attendance records.
- 9.2.10. All documentation e.g. audit/monitoring/compliance reports and notifications, required to be submitted to the Department in terms of this authorisation, must be submitted to the *Director: Compliance Monitoring* at the Department.

10. The environmental audit report must indicate the date of the audit, the name of the auditor and the outcome of the audit in terms of compliance with the environmental authorisation conditions as well as the requirements of the EMPr.
11. Records relating to monitoring and auditing must be kept on site and made available for inspection to any relevant and competent authority in respect of this development.

10. COMMENCEMENT OF THE ACTIVITY

- 10.1. The authorised activity shall not commence within twenty (20) days of the date of signature of the authorisation.
- 10.2. In terms of section 43(7), an appeal under section 43 of the National Environmental Management Act, 1998 will suspend the environmental authorisation or any provision or condition attached thereto. In the instance where an appeal is lodged you may not commence with the activity until such time that the appeal has been finalised.
- 10.3. The holder of this authorisation must obtain a Water Use Licence from the Department of Water and Sanitation (DWS) prior to the commencement of the project should the holder impact on any wetland or water resource.
- 10.4. The holder of this authorisation must obtain Atmospheric Emission Licence from relevant authority prior to commencement of the project should the project trigger listed activities in terms of the National Environmental Management: Air Quality Act 39 of 2004. The copy of the licence obtained must be included in the first audit submitted to the Department.

11. NOTIFICATION TO AUTHORITIES

- 11.1 A written notification of commencement must be given to the Department no later than fourteen (14) days prior to the commencement of the activity. Commencement for the purposes of this condition includes site preparation. The notice must include a date on which it is anticipated that the activity will commence, as well as a reference number. This notification period may coincide with the notice of intent to appeal period.

12. OPERATION OF THE ACTIVITY

- 12.1. A written notification of operation must be given to the Department no later than fourteen (14) days prior to the commencement of the activity operational phase.
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13. SITE CLOSURE AND DECOMMISSIONING

- 13.1. Should the activity ever cease or become redundant, the applicant shall undertake the required actions as prescribed by legislation at the time and comply with all relevant legal requirements administered by any relevant and competent authority at that time.

14. LEASING AND ALIENATION OF THE SITE

- 14.1 Should the holder of the environmental authorisation want to alienate or lease the site, he/she shall notify the Department in writing of such an intention at least 120 days prior to the said transaction. Should the approval be granted, the subsequent holder of the environmental authorisation shall remain liable to compliance with all licence conditions.

15. TRANSFER OF ENVIRONMENTAL AUTHORISATION

- 15.1 Should the holder of the environmental authorisation transfer holdership of this environmental authorisation due to a change of ownership [as provided for in terms of S24E(c) of NEMA], he/she must apply in terms of Section 52 of NEMWA.
- 15.2 Should the transfer of holdership of this environmental authorisation mentioned above be for any reason other than the change of ownership in the property, the holder of this environmental authorisation must inform the Department of any change in ownership in the property and must request an amendment to this environmental authorisation to reflect such change in ownership.
- 15.3 Any subsequent holder of an environmental authorisation shall be bound by conditions of this environmental authorisation.

16. SPECIFIC CONDITIONS

16.1. PERMISSIBLE WASTE

16.1.1. Any development on site must be constructed in accordance with Class C containment barrier designs as indicated in Regulation 636, National Norms and Standards for Disposal of Waste to Landfill, dated 23 August 2013 and only be used for the disposal of waste classified as Type 3 Waste in accordance to Regulation 643, National Environmental Management: Waste Act, 2008: Waste Classification and Management Regulations, dated 23 August 2013.

16.2. CONSTRUCTION

16.2.1 The site or any portion thereof may only be used for disposal of permissible waste (Ash in Class C) if the site or any such portion has been constructed or developed according to the conditions listed under condition 2 of this Licence.

16.2.2 Construction, operation and further development within the proposed waste disposal facility shall be in accordance with the approved drawings, any development in the proposed site shall adhere to Class C containment barrier designs as described in Government Notice 636, National Norms and Standards for Disposal of Waste to Landfill, dated 23 August 2013. **The design drawings must be approved in writing by the Director: Waste Licensing before construction and disposal may commence.**

16.2.3. Construction and further development within the site must be carried out under the supervision of a Professional Civil Engineer, registered under the Engineering Profession of South Africa Act, 2000 (Act 46 of 2000).

16.2.4. The authorisation holder must ensure that Construction Quality Assurance (CQA) takes place during construction, all construction material must comply with relevant South African National specifications, or any prescribed management practice or standards which ensure equivalent performance. Details of quality assurance during construction must be provided; this must also include conformation that construction will be supervised by a Registered Professional Engineer.

16.2.5. After construction of the site or further development within the site, the authorisation holder shall notify the Director: Licensing thereof and the Registered Professional Civil Engineer

- shall submit a certificate or alternatively a letter to the Director: Licensing that the construction of the site or further development within the site, as proposed by the authorisation holder and approved by the Director: Licensing, is in accordance with recognised civil engineering practice and the requirements in the authorisation, before disposal may commence on the Site. If the Director: Licensing is satisfied with the site and has given written permission, the authorisation holder may use the site.
- 16.2.6. Works shall be constructed and maintained on a continuous basis by the authorisation holder to divert and drain from the site in a legal manner, all runoff water arising on **land adjacent to the site**, which could be expected as a result of the estimated maximum precipitation during a period of 24 hours with an average frequency of one in fifty (50) years (hereinafter referred to as the "estimated maximum precipitation"). Such works shall, under the said rainfall event, maintain a freeboard of 0.8 metre above full supply level.
- 16.2.7. Works shall be constructed and maintained on a continuous basis by the authorisation holder to divert and drain from the working face of the site, all runoff water arising on the site which could be expected as a result of the estimated maximum precipitation and to prevent such runoff water from coming into contact with leachate from the site. Such work shall, under the said rainfall event, maintain a freeboard of 0.8 metre and be lined to the satisfaction of the Director: Licensing.
- 16.2.8. Runoff water referred to in condition 16.2.6 shall comply with the quality requirements as prescribed by the Director: Licensing which may be determined from time to time and shall be drained from the Site in a legal manner.
- 16.2.9. Runoff water referred to in condition 16.2.6 which does not comply with the quality requirements applicable in terms of condition 16.2.8 and leachate from the site shall, by means of works which shall be constructed and maintained on a continuous basis by the authorisation holder and be lined as approved by the Director: Licensing, prevent pollution to ground water-
- (i) be treated to comply with the quality requirements and discharged in a legal manner and/or,
 - (ii) be evaporated in lined dams and/or,
 - (iii) be discharged into any convenient sewer if accepted by the authority in control of that sewer.
- 16.2.10. The authorisation holder shall take responsible steps to ensure that all storage facility and drainage systems linked to the ash disposal facility are constructed and maintained on a continuous basis and be lined as approved by Director: Licensing.
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- 16.2.11. The slope of the site must be constructed in such a manner that little or no erosion occurs and ensures that no damming is occurring.
- 16.2.12. The authorisation holder must ensure that construction of Ash Disposal Facility (ADF) at recommended Alternative Site 1 stay out of the 100m buffer zone. Furthermore, all watercourses at this site must be identified within six months of issuance of this Environmental Authorisation.
- 16.2.13. Any development which occurs within 1:100 year flood line and/or within 500m from the boundary of a wetland would require a water use licence in terms of section 40 of the National Water Act, 1998 (Act 36 of 1998).
- 16.2.14. The ash disposal facility, pollution control dams or any effluent storage facility should not be constructed on geological features such as lineaments, dykes, fault zone or shallow water table.

16.3 MONITORING

16.3.1. Groundwater monitoring

- (i) Considering that groundwater monitoring results show migration plume on site, pollution at Alternative Site 1 must be remediated prior to disposal of ash and ensure the leakage plume does not spread beyond the site boundary.
 - (ii) A groundwater management plan in terms of quality and quantity must be implemented which will include monitoring boreholes up-gradient and down-gradient of the proposed ash disposal facility, existing pollution control dams and other effluent storage facilities prior to the operation of the site, during operational phase.
 - (iii) A groundwater monitoring programme defining the frequency of measurements, parameters to be monitored, database and reporting must be developed and implemented.
 - (iv) Borehole MA4 which must be incorporated into the existing monitoring programme must be drilled further to a depth of more than 15m and penetrates the whole aquifer system.
 - (v) If the groundwater monitoring borehole MA3 remains dry for a period of six months from date of this Environmental Authorisation, the borehole must be drilled further to the depth of at least more than 45m and penetrates the whole aquifer system.
 - (vi) All the boreholes located on the site footprint which were destroyed due to maintenance work or blocked due to other activities must be rehabilitated and incorporated into the existing monitoring programme.
 - (vii) Borehole B30 which is currently covered with ash and not sealed correctly should be properly sealed to prevent direct migration of potential poor quality water into the aquifer.
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- (viii) The groundwater quality (including the private boreholes adjacent to the proposed ash disposal facility found during hydrocensus) must be monitored on a quarterly basis by using approved groundwater sampling techniques and analysed by an accredited laboratory. Undue long-term trends in the quality of the water will indicate remediation actions.
- (ix) During the operational phase it must be ensured that local aquifers are not artificially recharged by seepage emanating from the ash disposal facility, pollution control dams and other effluent storage facilities, leaking along the pipelines transporting ash or hazardous waste such as oil and diesel spills.

16.3.2. Emergency actions plans

- (i) Emergency action plans in case of groundwater pollution emanating from the ash disposal facility or failure of lining system, pollution control dams or any effluent storage facilities, leaking along the pipelines transporting ash or hazardous waste such as oil and diesel spills, should be adhered too to protect groundwater quality from degradation.
- (ii) A groundwater remediation plan must be developed to ensure that the corrective measures are implemented and should inter alia identify the sources of potential groundwater contamination, the potential impacts should be quantified and their contribution factored into the remedial strategy of groundwater. The plan will be submitted to Department for approval.
- (iii) In the event ash disposal facility leaks due to failure of lining system, all the abstraction boreholes closer to the proposed ash disposal facility should be avoided so that contaminants will not migrate away from the site towards the abstraction boreholes used by other ground water users.
- (iv) In the event that groundwater users become affected by the ash disposal due to unacceptable water quality as a result of the contamination plume migrating and emanating from the ash disposal facility, the power station must compensate them with portable water.
- (v) The leachate detection system, seepage interception trenches as well as controls should be in place to minimise the impact of pollution and to allow timely control of contaminated incidents.
- (vi) The leachate detection system, seepage interception trenches and pipelines must be monitored on a regular basis for the occurrence of leakages.
- (vii) The ash should be analysed to determine which toxic elements it contains and ash leachate test should be conducted to identify the mobility of those elements.
- (viii) The acid base accounting tests to determine the acid generating and acid neutralizing capacity of the ash should also be determined.

- (ix) The groundwater recharge into the waste disposal facility and the pollution control dams should be managed and the water level in the facilities be monitored and kept to a minimum level to avoid decant of poor quality water or effluent into the surface resources and ensure surface streams do not act as secondary sources of contamination during operational, decommissioning and closure phases.

16.3.3 The ash disposal facility

- (i) The ash disposal facility or any storage facilities must be operated and maintained effectively to prevent any spillage of fly ash or polluted water into groundwater system during floods.
- (ii) Leakages and spillages along the conveyor to be used during transportation of the disposal site should be prevented.
- (iii) Any subsidised surface adjacent to the ash disposal facility should be rehabilitated to minimize ingress of surface water in to the ash disposal facility. Any massive subsides should be reported to the council of Geosciences immediately.
- (iv) The site should be capped effectively to minimize ponding and runoff should be directed away from the ash disposal facility.
- (v) Monitoring points must not be changed prior to written approval by the Director: Licensing.
- (vi) Monitoring boreholes must be clearly marked and numbered and be equipped with lockable caps. This Department and the Department of Water and Sanitation reserve the right to take water samples at any time and to analyse these samples, or to have them taken and analysed.

16.4. Surface water monitoring

- 16.4.1 If, in the opinion of Director: Licensing pollution of ground water, surface water or both occurred on the site or area, the authorisation holder may be required to monitor additional variable on a frequency which will be determined by the Director: Licensing.
- 16.4.2. A surface water monitoring points for all the identified water resources within the site must be done in consultation with the Department of Water & Sanitation.

16.5. Detection and investigative monitoring

- 16.5.1 Groundwater and surface water quality monitoring must be conducted
- (i) for variables listed in Annexure I – quarterly
- (ii) for variables listed in Annexure II – annually
- Or such frequency as may be determined by Department of Water & Sanitation

16.6. Liner leak and failure detection monitoring

- 16.6.1. The leak detection system must be monitored on a daily basis for possible leakages. Should a leak failure be suspected or detected during monitoring or at any time, it must be regarded as an incident and must be reported according to condition 18.1.1 below and be addressed to the satisfaction of the Director: Licensing.
- 16.6.2. Inspection of liners, where liners are accessible must be performed monthly. Liners must be repaired or replaced when inspection tests show deterioration or leakage and these corrective action shall be performed to the satisfaction of the Director: Licensing.

16.7 Investigative monitoring

- 16.7.1. If, in the opinion of the Director: Licensing, a water quality variable listed in Annexure II shows an increasing trend, the authorisation holder shall initiate a monthly monitoring programme.

16.8. METHODS OF ANALYSIS

- 16.8.1. The authorisation holder shall carry out all tests in accordance with methods prescribed by and obtainable from the South African Bureau of Standards (SABS), referred to in the Standards Act, 2008 (Act 08 of 2008), to analyse the samples taken under the monitoring programmes specified in condition 3.
- 16.8.2. The authorisation holder shall only use another method of analysis if written proof that the method is at least equivalent to the SABS method, is submitted to the Chief Director: IEA.

17 AUDITING

17.1 Auditing and inspections

- 17.1.1. The Chief Director: IEA reserves the right to audit and/or inspect the site at any time and at such a frequency as the Chief Director: IEA may decide, or to have the site audited or inspected.
- 17.1.2. The authorisation holder must make any records or documentation available to the Chief Director: IEA upon request, as well as any other information the Chief Director: IEA may require.

18. Reporting

18.1. Reporting of incidents

- 18.1.1. The authorisation holder must, within 24 hours, notify the Chief Director: Compliance Monitoring of the occurrence or detection of any incident on the site which has the potential to cause, or has caused water pollution.
- 18.1.2. The authorisation holder must, within 14 days, or shorter period of time, if specified by the Chief Director: Compliance Monitoring from the occurrence or detection of any incident referred to in condition 6.1.1, submit an action plan, which shall include a detailed time schedule, to the satisfaction of the Chief Director: Compliance Monitoring of measures taken to-
- (i) Correct the impact resulting from the incident;
 - (ii) Prevent the incident from causing any further impacts; and
 - (iii) Prevent a recurrence of a similar incident.
- 18.1.3. In the event that measures have not been implemented within 21 days to address impacts caused by the incident referred to in a condition 18.1.1, or measure which have been implemented are adequate, the Chief Director: Monitoring may implement the necessary measures at the cost and the risk of the authorisation holder.

18. OTHER REPORTS

- 18.1. The information required in terms of condition 16.3, 16.4, 16.5, 16.6 and 16.7 must be reported to the Director: Licensing in an annual report. The information must also be included into a trend report, which must contain a graphical presentation of all results obtained previously at any specific point, as well as an interpretation and discussion of the results of each monitoring occasion.
- 18.2. The authorisation holder must submit a written report to the Chief Director: IEA regarding any deviations from plans described in the authorisation and must obtain written permission from the Chief Director: IEA before such deviations may be implemented.
19. This authorisation does not exempt the holder from compliance with any other Legislation including Section 40 of the National Water Act, 1998 (Act 36 of 1998).

General

20. A copy of this authorisation and the approved EMPr must be kept at the property where the activity/ will be undertaken. The authorisation and approved EMPr must be produced to any authorised official of the Department who requests to see it and must be made available for inspection by any employee or agent of the holder of the authorisation who works or undertakes work at the property.
21. The holder of the authorisation must notify both the *Director: Integrated Environmental Authorisations* and the *Director: Compliance Monitoring* at the Department, in writing and within 48 (forty eight) hours, if any condition of this authorisation cannot be or is not adhered to. Any notification in terms of this condition must be accompanied by reasons for the non-compliance.
22. National government, provincial government, local authorities or committees appointed in terms of the conditions of this authorisation or any other public authority shall not be held responsible for any damages or losses suffered by the applicant or his successor in title in any instance where construction or operation subsequent to construction be temporarily or permanently stopped for reasons of non-compliance by the applicant with the conditions of authorisation as set out in this document or any other subsequent document emanating from these conditions of authorisation.

Date of environmental authorisation: 14/07/2016



Mr Sabelo Malaza

Chief Director: Integrated Environmental Authorisations
Department of Environmental Affairs

Annexure 1: Reasons for Decision

1. Information considered in making the decision

In reaching its decision, the Department took, *inter alia*, the following into consideration -

- a) The information contained in the FEIAR dated December 2015;
- b) The comments received from the organs of state and interested and affected parties as included in the BAR dated December 2015;
- c) Mitigation measures as proposed in the FEIAR dated December and the EMPr;
- d) The information contained in the specialist studies contained within Appendix D of the FEIAR and
- e) The objectives and requirements of relevant legislation, policies and guidelines, including section 2 of the National Environmental Management Act, 1998 (Act 107 of 1998).

2. Key factors considered in making the decision

All information presented to the Department was taken into account in the Department's consideration of the application. A summary of the issues which, in the Department's view, were of the most significance is set out below.

- a) The findings of all the specialist studies conducted and their recommended mitigation measures.
- b) The need for the proposed project is for generation of electricity as Eskom is mandated by the South African government to ensure the provision of reliable and affordable power to South Africa.
- c) The FEIAR identified all legislation and guidelines that have been considered in the preparation of the FEIAR dated December 2015.
- d) The methodology used in assessing the potential impacts identified in the FEIAR dated December 2015 and the specialist studies have been adequately indicated.
- e) A sufficient public participation process was undertaken and the applicant has satisfied the minimum requirements as prescribed in the EIA Regulations, 2010 for public involvement.

3. Findings

After consideration of the information and factors listed above, the Department made the following findings -

- a) The identification and assessment of impacts are detailed in the FEIAR dated December 2015 and sufficient assessment of the key identified issues and impacts have been completed.
- b) The procedure followed for impact assessment is adequate for the decision-making process.
- c) The proposed mitigation of impacts identified and assessed adequately curtails the identified impacts.
- d) The information contained in the FEIAR dated December 2015 is accurate and credible.
- e) EMP measures for the pre-construction, construction and rehabilitation phases of the development were proposed and included in the FEIAR and will be implemented to manage the identified environmental impacts during the construction process.

In view of the above, the Department is satisfied that, subject to compliance with the conditions contained in the environmental authorisation, the proposed activity will not conflict with the general objectives of integrated environmental management laid down in Chapter 5 of the National Environmental Management Act, 1998 and that any potentially detrimental environmental impacts resulting from the proposed activity can be mitigated to acceptable levels. The environmental authorisation is accordingly granted.

ANNEXURE I

WATER QUALITY VARIABLES REQUIRED FOR DETECTION MONITORING:

Monitor at quarterly intervals for:

Aluminium (Al)
Ammonia
Arsenic
Bicarbonate (HCO₃)
Cadmium (Cd)
Calcium (Ca)
Carbonate (CO₃)
Chloride (Cl)
Copper (Cu)
Electrical Conductivity (EC)
Fluoride (F)
Iron (Fe)
Lead (Pb)
Magnesium (Mg)
Manganese (Mn)
Nickel (Ni)
Nitrate (NO₃-N)
Nitrite (NO₂)
pH
Phosphate (PO₄)
Potassium (K)
Sodium (Na)
Sulphate (SO₄)
Total Alkalinity (T.Alk)
Total Chromium
Total Dissolved Solids (TDS)
Vanadium (V)
Zinc (Zn)

ANNEXURE II

**WATER QUALITY VARIABLES REQUIRED FOR DETECTION AND INVESTIGATIVE
MONITORING:**

Monitor at annual intervals for:

Electrical Conductivity (EC)

Iron (Fe)

Manganese (Mn)

Sodium (Na)

Sulphate (SO₄)

Total Dissolved Solids (TDS)