



**DRAFT ENVIRONMENTAL MANAGEMENT PLAN (EMP)
for the
PROPOSED DECOMMISSIONING OF AN EXISTING ROCK WASTE
DUMP AT ESKOM MATIMBA POWERSTATION IN LEPHALALE,
LIMPOPO PROVINCE**

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PREPARED FOR:
Eskom Holdings (Pty) Ltd
Eskom Generation Division
P O Box 1091
Johannesburg
2000
Tel: (011) 800-2706
Fax: (011) 800 -3791

COMPILED BY:
Envirolution Consulting (Pty) Ltd
PO Box 1898
Sunninghill
2157
Tel: (0861) 44 44 99
Fax: (0861) 62 62 22
E-mail: info@envirolution.co.za
Website: www.envirolution.co.za

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1. INTRODUCTION AND BACKGROUND

Envirovolution Consulting (Pty) Ltd (Envirovolution Consulting) has been appointed by Eskom Generation Environmental Management (GEM) Division as an independent environmental consultancy to undertake the Environmental Impact Assessment (EIA) for the proposed decommissioning of a rock dump in Lephalale, Limpopo Province.

The rock dump is located on the farm Grootestryd 465 LQ situated on the property within which the Matimba Power Station is located. Eskom has applied for authorisation of a new landfill that is proposed to be located next to an unused disposal site that is the process of being decommissioned. It is a legal requirement and a standard best practice procedure that Eskom consider rehabilitating the rock dump that was previously used for the dumping of rock and general waste at Matimba Power station.

Eskom must ensure that the rehabilitation or the decommissioning of the rock dump does not impact adversely on the environment. To this end, the Matimba Power Station has been engaging with the Department of Water Affairs (DWA). Various strategies and mitigation measures have been put in place. The administrative closure of the site was never affected. To achieve this objective, Eskom has consequently initiated the process in terms of the Waste Act (Act No 59 of 2008). It is recognised that there is a need for ensuring continuous improvement with respect to environmental management to assuage any impacts on the environment.

As part of the process for closure of the "Rock Dump" site a geohydrological study (**Appendix C1** of BAR) was conducted by Blue Rock Consulting (Pty) Ltd in October 2009. This study clarified the questions raised by DWA regarding the flow of groundwater and migration of a possible pollution plume at the site and in the surrounding areas. The nature of the aquifers at the site was similarly addressed. It detailed to what extent the site is contributing to the pollution of the groundwater and what effect this will have on the surrounding areas. It determined the current status of the impact the site has on the environment and made an assessment as to the geohydrological impact of the site and the closing of the site. The study further made recommendations for remediation measures and mitigation of the impacts, taking into consideration that the site will no longer be in use, as well as specifying a monitoring system that records the effectiveness of the remedial measure.

In addition, a closure plan (**Appendix 2**) for the decommissioning of the rock dump had been compiled to ensure that site is properly closed and rehabilitated in a manner that will minimise environmental, social, financial and economic risks. The closure report aims to specify the implementation of requirements for closure of the landfill and would typically include details of rehabilitation measures. The report also seeks to specify details of management, inspection, monitoring and maintenance of the site after it is closed. It is one of the aims of the closure report to specify the implementation of requirements for closure of the rock dump and outline the details of rehabilitation

measures. The report further seeks to specify details of management, inspection, monitoring and maintenance of the site after it is closed. It is to be noted therefore that these two reports are to be used in conjunction with this EMP.

As part of an environmental impact assessment, risks to the environment are identified and these possible risks should be taken into account during the planning phase of the development. As such Environmental Management Plan (EMP) is developed. An EMP is a requirement for any proposed project as per the NEMA EIA Regulations, 2006. The implementation of this EMP, through the appointed contractor, remains the responsibility of the applicant, Eskom.

As part of this Basic Assessment, Envirolution Consulting has considered the compilation of a Waste Management Plan (WMP) to be used during the decommissioning of the rock dump. This is an additional document to the EMP that will specifically address the management of general and hazardous wastes during both the decommissioning phase.

The purpose of the WMP is also to provide guidance to the project team with regard to the management of waste generated on the rock dump site during the decommissioning of the rock dump. The WMP will further assist in the prevention of pollution that may arise from the rock dump during decommissioning.

All these documents (geohydrological input, closure and end use plan) referred to must be read in conjunction with this EMP and the specifications therein be implemented. In general, the purpose of this EMP is to formulate mitigatory measures that should be made binding to all contractors during the closure of the rock dump, as well as measures that should be implemented during the operational phase.

The EMP is thus required to protect the natural, social and socio-economic environment during decommissioning. This EMP is intended for the management of the impacts of the decommissioning and rehabilitation of the rock dump. This EMP must therefore be used on site during the decommissioning of the rock dump. All Specifications for rehabilitation and remediation, post closure monitoring highlighted in the closure plan must be noted and be implemented in line with this EMP during the operational phases.

This document should be flexible so as to allow the contractor and Eskom to conform to the management commitments without being prescriptive. The management commitments prove that the anticipated risks on the environment will be minimised if they are adhered to consistently. The onus set out in the EMP rests with Eskom which promotes responsibility and commitment.

The EMP has been developed with due reference to the following:

- Blue Rock Consulting,(October 2009), **Geohydrological report on the proposed closure of the Eskom Matimba Rock dump**, Report No 0113
- USK Consulting, (October 2009), **Preliminary closure report and end use plan Matimba Power Station** “Rock dump” waste site, USK Report No: P0079/1
- Department of Water Affairs and Forestry, Republic of South Africa, Bredenhann L, Fourie H.O. (Dr). (1998) **Waste Management Series, Minimum Requirements for the Handling, Classification and Disposal of Hazardous Waste**, Second Edition.
- Department of Water Affairs and Forestry, Republic of South Africa, Bredenhann L., Ball J.M. (1998). **Waste Management Series, Minimum Requirements for Waste Disposal by Landfill**, Second Edition.
- Envirolution Consulting (Pty) Ltd. (July 2009). **Environmental Impact Report for the Proposed Construction of an Eskom General Landfill and Hazardous Waste Storage Facility**, DEAT Reference No: 12/12/20/1399.

This document has also been based on the findings of the on site assessment undertaken by the Envirolution Team and the Specialist Investigation team between November 2008 – March 2009 for the construction of landfill site that is proposed in close proximity to the rock dump.

All the Environmental specifications and the procedures discussed in this document and the mentioned document were also developed in accordance with the relevant legislation applicable to the closure of this rock dump.

This draft Environmental Management Plan was compiled by:

Company Name: Envirolution Consulting (Pty) Ltd
Contact person: Ms. Nkhensani. Khandlhela (Msc. Geography)
Physical Address: 4 Peltier Drive, Building 25, Sunninghill Office Park
Postal Address: P.O Box 1898, Sunninghill, 2157
Telephone Number: (0861) 44 44 99
Fax Number: (0861) 62 62 22
E-mail: nkhensani@envirolution.co.za

Ms. Nkhensani Khandlhela heads the project team and acts as the Project Manager for all phases of the project. Nkhensani holds a M.Sc. (Geographical Sciences). She is an Environmental Scientist with 5 years of experience. Nkhensani specialises in Integrated

Environmental Management (IEM), Environmental Impact Assessments (EIAs), rural development, land use issues and socio-economic surveys. Nkhensani has been a project scientist for various EIA's in KwaZulu Natal, Eastern Cape and Gauteng provinces of South Africa. Nkhensani is currently a Project Manager and Environmental Scientist at Envirolution Consulting.

2. PHASES OF THE PROJECT

The process which was followed in compiling this EMP is in compliance with NEMA EIA Regulations 2006, and applies the principles of Integrated Environmental Management (IEM). The purpose of this EMP is to formulate mitigation measures that are made binding on all contractors during the decommissioning of the rock dump.

The point of departure for this EMP is to take a pro-active route by addressing potential problems before they occur. This should limit corrective measures needed during the decommissioning of the rock dump. Additional mitigation will be included throughout the project's various phases, as required and if necessary.

The activities that are anticipated to occur during the decommissioning of the site include the grading of slopes, the dredging of unwanted waste for disposal into a registered landfill site, covering and capping the site, and the revegetation of the site using indigenous species. The management of impacts from these activities is covered in this draft EMP.

This EMP deals with the following phases as detailed below:

2.1. The Planning Phase

This EMP offers an ideal opportunity to incorporate pro-active environmental management measures with the goal of attaining sustainable development. While there is still the chance of accidental impacts taking place; however, through the incorporation of contingency plans (e.g. this EMP) during the planning phase, the necessary corrective action can be taken to further limit potential impacts.

2.2. The Decommissioning Phase

The bulk of the impacts during this phase will have immediate effects (e.g. noise, dust and pollution). If the site is monitored on a continual basis during the decommissioning phase, it is possible to identify these impacts as they occur. These impacts can then be mitigated through the contingency plans identified in the planning phase, together with a commitment to sound environmental management from Eskom.

2.3. The Post Decommissioning Phase

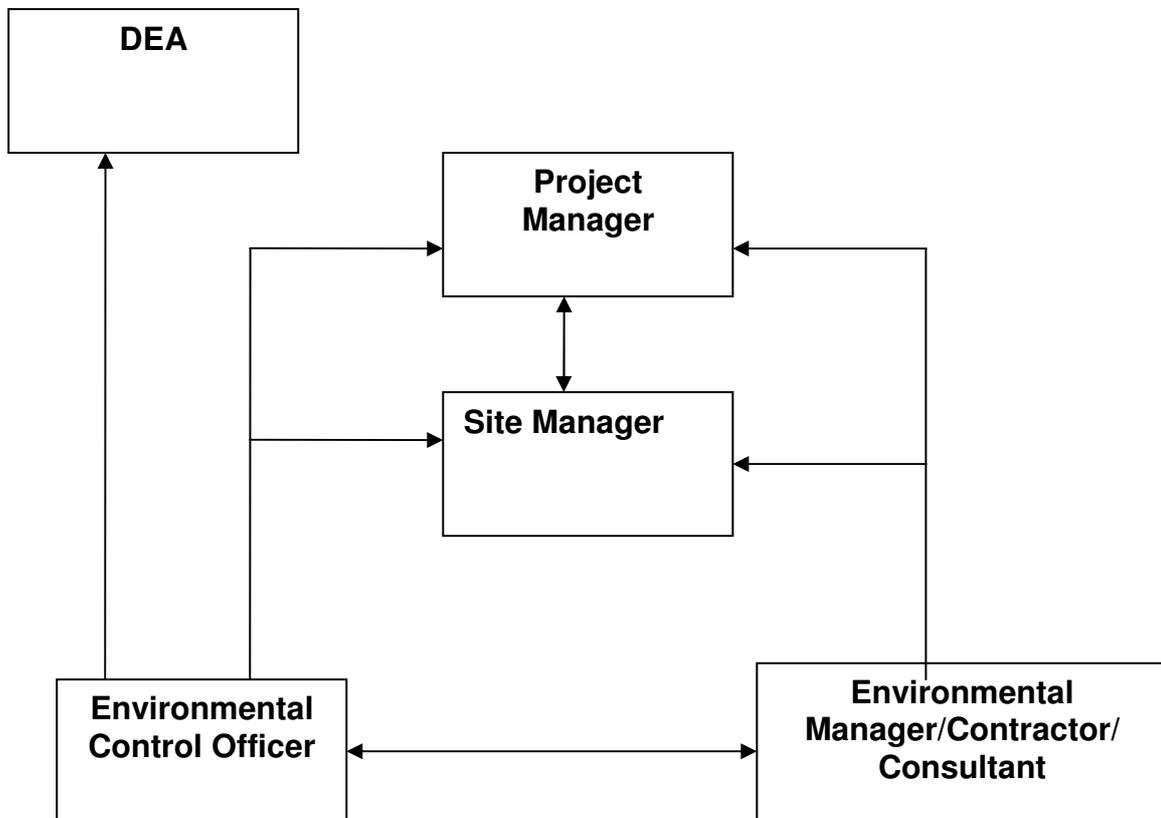
By taking pro-active measures during the planning and decommissioning phases, potential environmental impacts emanating post decommissioning will be minimised. This, in turn, will minimise the risk and reduce the monitoring effort, but it does not make monitoring obsolete.

3. Management Procedures

3.1. Organisational Structure and Responsibility

3.1.1 Functions and Responsibilities for the decommissioning phase

Formal responsibilities are necessary to ensure that key procedures are executed. Specific responsibilities of the Eskom Project manager, Site Manager, Environmental Manager and Environmental Control Officer for the decommissioning phase of this project are as detailed below.



The Project Manager will:

- Ensure that Eskom and the Contractor are aware of all specifications, legal constraints and Eskom standards and procedures pertaining to the project specifically with regards to the environment.
- Ensure that all stipulations within the EMP are communicated and adhered to by Eskom and its Contractor(s).
- Monitor the implementation of the EMP throughout the project by means of site inspections and meetings. This will be documented as part of the site meeting minutes.
- Be fully conversant with the Environmental Impact Assessment for the project, the conditions of the RoD, and all relevant environmental legislation

The Site Director: Matimba Power Station:

- Be fully conversant with the Environmental Impact Assessment.
- Be fully conversant with the conditions of the RoD.
- Be fully conversant with the Environmental Management Plan.
- Be fully conversant with all relevant environmental legislation and Eskom environmental policies and procedures, and ensure compliance with these.
- Have overall responsibility for the implementation of the EMP.
- Ensure that audits are conducted to ensure compliance to the EMP.
- Liaise with the Project Manager or his delegate, the Environmental Control Officer and others on matters concerning the environment.
- Prevent actions that will harm or may cause harm to the environment, and take steps to prevent pollution on the site.
- Confine activities to the demarcated rock dump site.

The Environmental Manager will:

The Environmental Manager: Medupi Power Station Project must be:

- Be fully conversant with the Environmental Impact Assessment.
- Be fully conversant with the conditions of the RoD.
- Be fully conversant with the Environmental Management Plan.
- Be fully conversant with all relevant environmental legislation and Eskom environmental policies and procedures, and ensure all obligations contained within these are met.
- Assist Eskom in ensuring necessary environmental authorizations and permits have been obtained.
- Ensure that all required and relevant environmental roles are identified and filled with adequately suitable and qualified personnel.

- Provide guidance, assistance and input to the project with regards to environmental management on a strategic level.
- Review and accept decommissioning method statements;
- Ensure all environmental aspects and impacts are identified for all activities taking place and for all major plant and equipment.
- Responsible for ensuring the compilation and implementation of the following:
 - Land Management Plan;
 - Fire Management Plan;
 - Project Monitoring Plan;
 - Waste Management Plan;
 - Water Management Plan; and
 - Other applicable plans.
- Promote a holistic view of the environmental impacts of the and ensure that environmental impacts are kept to a minimum as far as practically possible.
- Take appropriate mitigation action should the specifications contained in the EMP not be complied with.
- Advise on the removal of person(s) and/or equipment not complying with the specifications;
- Ensure that activities on site comply with all the relevant environmental legislation.
- Assisting Eskom in finding environmentally responsible solutions to problems;
- Ensure that the Contractors are made aware of all applicable DEAT-approved changes to the EMP.
- Compile progress reports on a regular basis on environmental management for submission to Project Management and the ECO.
- Keep records of all activities/incidents concerning the environment on Site in the Site Incident Register;
- Keep a register of complaints and recording and dealing with any comments or issues;
- Inspect the site and surrounding areas regularly with regard to compliance with the EMP;
- Monitor the undertaking by Eskom and Contractors of environmental awareness training for all new personnel coming onto site;
- Undertake a continual internal review of the EMP and submitting a report to the management of Eskom and the ECO at the end of the project.

The Environmental Control Officer will:

- Be fully conversant with the Environmental Impact Assessment Report (EIR).
- Be fully conversant with the conditions of the Record of Decision (RoD).
- Be fully conversant with the Environmental Management Plan.
- Be fully conversant with all relevant environmental legislation and Eskom environmental policies and procedures, and ensure compliance with them.

- Ensure that periodic environmental performance audits are undertaken on the project implementation.
- Submit an environmental compliance report on a two-monthly basis, in writing, to the Director-General of the DEAT, copied to the Limpopo Department of Economic Development, Environment and Tourism.
- Maintain the following on site:
 - A daily site register
 - A non-compliance register (NCR)
 - A public complaint register
 - A register of audits
- Remain employed until the completion of closure of the site.
- Report to project manager and be accountable to the EMC.

In addition, the Environmental Control Officer will:

- Convey the contents of this document to the site staff and discuss the contents in detail with the Project Manager and Contractor.
- Undertake regular and comprehensive inspection of the site and surrounding areas in order to monitor compliance with the EMP.
- Take appropriate action if the specifications contained in the EMP are not followed.
- Monitor and verify that environmental impacts are kept to a minimum, as far as possible.
- Ensure that activities on site comply with all relevant environmental legislation.
- Compile progress reports on a regular basis, with input from the Site Manager, for submission to the Project Manager, including a final post-decommissioning audit carried out by an independent auditor/consultant.

Generation Environmental Manager will:

- Provide overall assurance to the Managing Director: Generation Division (and hence ultimately the CEO) that environmental issues are appropriately addressed and managed at the waste rock dump site
- Provide overall assurance to the Managing Director: Generation Division that Department of Water Affairs (DWA) conditions and EMP are adhered to
- Ensure that appropriate reporting of environmental performance/issues takes place
- Where necessary, liaise on a strategic level with environmental authorities EMP-related issues

Contractors and Service Providers:

The Contractor's Environmental Officer will:

- Provide the Site Director / ECO with a written monthly report, detailing both compliance with the Environmental Specification as well as environmental performance .This Environmental and Compliance Report will be made available to the Environmental Monitoring Committee (EMC), should they request to see it.
- Maintain a record of incidents (spills, impacts, complaints, legal transgressions, etc) as well as corrective and preventive actions taken, for submission to the Site Director at the scheduled meetings.
- Identify and assess previously unforeseen, actual or potential impacts of the project on the environment.
- Assist the contractor in the drafting of Environmental Method Statements where such knowledge/expertise is lacking.
- Conduct regular internal inspections and audits to ensure that the system for implementation of the Environmental Specification is operating effectively. The audit shall check that a procedure is in place to ensure that:
 - the environmental method statements and the Environmental Specifications (ES) being used are up to date;
 - variations to the ES and environmental method statements and non-compliances and corrective actions are documented;
 - appropriate environmental training of personnel is undertaken; and
 - emergency procedures are in place and effectively communicated to personnel
- Advise the Contractor on the rectification of any pollution, contamination or damage to the project site, rights of way and adjacent land.
- Attend regular site meetings (scheduled and ad hoc).
- Arrange the presentation of the environmental awareness training course to all staff, Contractors and Sub-contractors and monitor the undertaking by the Contractor(s) of environmental awareness training for all new personnel on-site.
- Ensure that a copy of the RoD and latest version of the EMP are available on site at all times.
- Ensure that the Contractors are made aware of all applicable DEA-approved changes to the EMP.
- Remain employed until all rehabilitation measures, as required for implementation due to decommissioning damage, are completed and the site is handed over to Eskom by the contractor for operation.

The Environmental Officer shall also provide information to the Site Director or his representative, as required during external audits conducted by or on behalf of the Site Director as part of the auditing programme. The information required will include the reports of internal audits conducted by the Environmental Officer.

All contractors (including subcontractors and staff) and service providers are ultimately responsible for:

- complying with the environmental management specifications where applicable;
- provide Environmental Method Statements to the Site Director with regards to how certain activities on-site will be conducted. The Method Statements will be accepted by the Environmental Control officer and the Environmental Manager one month prior to the activity commencing.
- adhering to any environmental instructions issued by the Site Director/Project Manager on the advice of the ECO;
- submitting a report, in a format and frequency as decided upon by the Project Manager/Site Director, which will document all incidents that have occurred during the period before the progress meeting.
- arrange that all his employees and those of his subcontractors receive training. Training has to be appropriate for the level of the tasks and functions undertaken.

The Environmental Method Statement referred to above will cover applicable details with regard to

- Decommissioning procedures
- Materials and equipment to be used
- Getting the equipment to and from site
- How the equipment/material will be moved while on-site
- How and where material will be stored
- The containment (or action to be taken if containment is not possible) of leaks or spills of any liquid or material that may occur
- Compliance/non-compliance with the Environmental Specifications
- Any other information deemed necessary by the Site Director

2.2. Environmental Specifications: Awareness and Competence

It is important to ensure that all personnel have the appropriate level of environmental awareness and competence to ensure continued environmental due diligence and ongoing minimisation of environmental harm.

To achieve effective environmental management, it is important that employees, Contractors and Subcontractors are aware of the responsibilities in terms of the relevant environmental legislation and the contents of this EMP. Environmental training may typically include the following:

- Employees must have a basic understanding of the key environmental features of the site and the surrounding environment;
- Employees will be familiar with the requirements of the EMP and the environmental specifications as they apply to the decommissioning of the waste rock dump.

- Awareness of any other environmental matters, which are deemed to be necessary by the ECO.
- Records must be kept of those that have completed the relevant training.

Training can be done either in a written or verbal format or in an appropriate language, but will be in an appropriate format for the receiving audience. Where training has been done verbally, persons having received training must indicate in writing that they have indeed attended a training session. A regular form of written or verbal testing will have to be designed.

2.3. Monitoring and Measurement Programme

A monitoring programme in line with the recommendation of the closure plan and the geohydrological report will be in place not only to ensure conformance with the EMP, but also to monitor any environmental issues and impacts which have not been accounted for in the EMP that are, or could result in significant environmental impacts for which corrective action is required. Eskom will stipulate the period and frequency of monitoring required. This will be determined in consultation with relevant stakeholders and authorities. The Project Manager will ensure that the monitoring is carried out.

The Environmental Control Officer will ensure compliance with the EMP, and to carry out monitoring activities. The Environmental Control Officer must have the appropriate experience and qualifications to undertake the necessary tasks. The Environmental Control Officer will report to the Environmental Monitoring Committee and Site Manager should any non-compliance be evident or corrective action necessary. Only in severe cases of non-compliance, or repeated offences, will the Environmental Control Officer be required to report to the Project Manager.

All instruments and devices used for the measurement or monitoring of any aspect of this EMP must be calibrated and appropriately operated and maintained.

2.4. General inspection monitoring and reporting

The Contractors' Responsible Person or Environmental Officer shall

- Inspect the site on a daily basis to ensure that the environmental specifications are adhered to.
- Provide the ECO and Environmental Manager with a written monthly report, detailing both compliance with the Environmental Specification as well as environmental performance. The Environmental and Compliance Report will be made available to

the Environmental Monitoring Committee (EMC) as and when necessary, should they request to see it.

- Maintain a record of major incidents (spills, impacts, complaints, legal transgressions, etc) as well as corrective and preventive actions taken, for submission to the Site Manager and the ECO/ Environmental Manager at the scheduled meetings.
- Conduct regular internal audits to ensure that the system for implementation of the Environmental Specification is operating effectively. The audit shall check that a procedure is in place to ensure that:
 - the environmental method statements and the Environmental Specifications (ES) being used are up to date
 - variations to the ES and environmental method statements and non-compliances and corrective actions are documented
 - appropriate environmental training of personnel is undertaken; and
 - emergency procedures are in place and effectively communicated to personnel

The Environmental Officer shall also provide information to the Site Manager or his representative, as required during external audits conducted by or on behalf of the Site Manager as part of the auditing programme. The information required will include the reports of internal audits conducted by the Environmental Officer.

2.5. Non-Conformance and Corrective Action

The monitoring of the waste rock dump decommissioning may identify non-conformances of the EMP. Non-conformances may also be identified through incidents, emergencies or complaints. In order to correct these non-conformances, the route course must be determined and corrective actions must be identified.

2.5.1. Compliance with the Environmental Management Plan, Rock dump closure plan, Environmental Specifications, Environmental Method Statements and/or DWA conditions

- The EMP will be available on-site at all times.
- All employees on-site will abide by the requirements of the EMP.
- Any members of the workforce found to be in breach of any of the specifications contained within the EMP may be ordered by the Project Manager to leave the site. The order may be given orally or in writing. Confirmation of an oral order will be provided as soon as practically possible, but the absence of a written order will not be cause for an offender to remain on site.
- The Contractor will not direct a person to undertake any activity which would place them in contravention of the specifications contained within the EMP.

- Should the Contractor be in breach of any of the specifications contained in the EMP, the Project Manager will, in writing, instruct the Contractor responsible for the incident of non-compliance regarding corrective and/or remedial action required, specify a timeframe for implementation of these actions, implement a penalty and/or indicate that work will be suspended should non-compliance continue.
- The Environmental Monitoring Committee (EMC) must report to the Director-General of the Department of Environmental Affairs (DEA) on a bi-monthly basis, insofar as project compliance to the DWAF requirements, environmental legislation and specific mitigation requirements as stipulated in the Environmental Management Plans is concerned. The report should be sent to the Director of the Environmental Division as well.
- The applicant must notify the DEA, in writing, **within 24 hours** thereof if any DWA condition or is not, adhered to. The notification must be supplemented with reasons for non-compliance.
- Departmental officials will be given access to the property for the purpose of assessing and/or monitoring compliance with the EMP, at all reasonable times.
- Records relating to monitoring and auditing must be made available for inspection to any relevant authority in respect of this development.
- The DEA reserves the right to monitor and audit the development throughout its full life cycle to ensure that it complies with the RoD conditions, as well as mitigation measures in the final Basic Assessment Impact Report (BAR), the closure and end use plan and the EMP.

2.6. Documentation and Reporting

The following documentation must be kept on site by the Environmental Control Officer in order to record compliance with the EMP:

- Record of Complaints;
- Monitoring Results;
- Notification of Emergencies and Incidents; and
- Any other documentation.

In addition, the Environmental Control Officer shall:

- maintain records to demonstrate compliance to the Environmental Specifications; and Environmental Method Statements. The Contractor shall ensure that all records of spills, pollution incidents, spot fines, training details, etc. are copied to the ECO for his/her records. All documents shall be open for inspection by the ECO.

2.6.1. Fines and penalties

- The Site Manager may identify a Contractor that is best implementing the Environmental Specifications and Environmental Method Statements and may make a periodic award to, or acknowledge, that Contractor.
- Spot fines shall be imposed by the Site Manager on the Contractor if the Contractor is found to be infringing on this Specification. The Contractor shall be advised in writing of the nature of the infringement and the amount of the spot fine. The Contractor shall determine how to recover the fine from the relevant person and/or sub-contractor and/or supplier. The Contractor shall also take the necessary step (e.g. training) to prevent a recurrence of the infringement and shall advise the Site Manager accordingly.
- The imposition of spot fines does not replace any legal proceedings the local authorities, environmental authorities and/or members of the public may institute against the Contractor.
- Spot fines shall be between R1000 and R20000, depending on the severity of the infringement. The decision on how much to impose will be made by the Site Manager, and will be final. In addition to the spot fine, the Contractor shall be required to make good any damage caused as a result of the infringement at his own expense.
- A preliminary list of infringements for which spot fines will be imposed is as follows:
 - Moving outside the demarcated site boundaries;
 - Littering of the site and surrounds;
 - Burying waste on site and surrounds;
 - Smoking in the vicinity of fuel storage and filling areas and in any other areas where flammable materials are stored/used;
 - Making fires outside designated areas;
 - Defacement of natural features;
 - Using the veld for ablution purposes;
 - Spillage onto the ground of oil, diesel, etc.
 - Picking/damaging plant material;
 - Damaging/killing wild animals; and
 - Additional fines as determined by the Site Manager and added to this list.
- Receipts for fines paid shall be issued, and the appropriate documentation retained, by the Site Manager. Money “raised” through fines may be used to fund environmental/social schemes on-site.

2.6.2. Environmental Register

The Contractor will report environmental incidents involving Contractor employees and/or the public:

- Report environmental incidents involving Contractor employees and/or the public
- Report environmental complaints and correspondence received from the public to the Project Manager or the Environmental Control Officer.
- Record and report incidents that cause harm or may cause harm to the environment to the Environmental Control Officer.
- Record all hazardous materials used on site.
- Maintain a record of all Hazardous Waste Disposal Manifests detailing the nature of the hazardous waste disposed of, the hazardous waste classification and the location of the site to which such waste was sent.

The above records will form an integral part of the Contractors' Records. These records will be kept with the EMP, and will be made available for scrutiny if so requested by the Project Manager or his delegate and the Environmental Control Officer.

The Environmental Control Officer will put in place an Environmental Register to document:

- All environmental complaints and correspondence received from the public, Eskom or the workforce.
- Incidents of non-compliance with the EMP.
- Any other environmental incidents related to the the project.

The Environmental Control Officer will ensure that the following information is recorded for all complaints/incidents:

- Nature of complaint/incident.
- Causes of complaint/incident.
- Party/parties responsible for causing complaint/incident.
- Immediate actions undertaken to stop/reduce/contain the causes of the complaint/incident.
- Additional corrective or remedial action taken and/or to be taken to address and to prevent reoccurrence of the complaint/incident.
- Timeframes and the parties responsible for the implementation of the corrective or remedial actions.
- Procedures to be undertaken to be applied if corrective or remedial actions are not implemented.

Copies of all correspondence received regarding complaints/incidents.

2.1. Public Communication and Liaison with I&APs

Eskom must ensure that the public and surrounding communities are informed and updated throughout the site closure, or as and when specific issues arise. An appropriate method of communication shall be decided upon by the Project Manager.

Sufficient signage should be erected around the site (including at the entrance), informing the public of the site decommissioning activities taking place. The signboards should include the following information:

- The name of the Eskom
- The name and contact details of the site representative to be contact in the event of emergencies or complaint registration.

4. ENVIRONMENTAL MANAGEMENT PLAN (EMP)

The following table forms the core of this EMP for the pre decommissioning, decommissioning and post decommissioning phases. This table should be used as a checklist on site, especially during the site closure phase. Compliance with this EMP must be audited monthly during the decommissioning phase and once immediately following completion of the decommissioning. This must be followed up with annual audits for a period of two years during post decommissioning.

DECOMMISSIONING PHASE EMP

Table 1: Planning and pre - decommissioning Environmental Management Plan for the proposed decommissioning of the Eskom Rock Dump

Activity / issue	Action required	Responsible party	Frequency
1.1 Planning	(a) The decommissioning must conform to both the applicable permit conditions and the Minimum Requirements associated with the site classification, the closure plan and the recommendations of the geohydrological assessment.	Eskom	Continuous until end of construction
	(b) It is the duty of the responsible person to ensure that the Minimum Requirements for the closure of the landfill site as per Nema Waste Act 59 of 2008 permit conditions are applied to the degree equal with its class to the satisfaction of the Department of Water Affairs and Forestry and the Department of Environmental Affairs and Tourism.	Eskom	Continuous
	(c) There must be sufficient facilities (plant materials) and resources (trained labour force) to ensure that the landfill operation can conform to both the closure permit conditions and relevant Minimum Requirements. For example, there should be sufficient trained staff to monitor, control and record incoming waste where required.	Eskom	Continuous
	(d) All construction activities within the landfill must be limited to daylight hours. Should there be a need to undertaken construction at night, such will require approval from the Project Manager and the Matimba Station Manager	Contractor	Continuous
1.2 Appointment and Duties of ECO	(a) Eskom must appoint an independent Environmental Control Officer (ECO) who must monitor the contractor's compliance with the environmental management plan.	Eskom	Once-off

Activity / issue	Action required	Responsible party	Frequency
	(b) The Eskom must provide the ECO and contractor with a copy of the EMP and the letters from DWAF Pertaining to the decommissioning of this dump.	Eskom	Once-off
	(c) The priority of the ECO is to maintain the integrity of the closure conditions outlined in the EMP and must be enforced and adhered to at all time.	ECO	Continuous
	(d) The ECO must form part of the project management team and attend all project meetings.	ECO	Continuous
	(e) The contractor must ensure that the construction crew attend an environmental briefing and training session presented by the ECO prior to commencing activities on site.	ECO, Contractor	Once-off
1.3 Appointment and Duties of EO	The contractor must appoint an Environmental Officer (EO). This person will be required to monitor the situation with a direct hands-on approach, and ensure compliance and co-operation of all personnel.	Contractor	Once-off
1.4 EMP	This EMP must be made binding to the main contractor as well as individual contractors and should be included in tender documentation for the construction contract.	Eskom, ECO	Once-off
1.5 Permits and Permissions	(a) The Contractor shall ensure that all pertinent permits, certificates and permissions required for the project have been obtained prior to any activities commencing on site and ensure that they are strictly enforced/adhered to. This includes, for example, licence for storage of flammable liquids and hazardous materials (obtained from Lephalale Municipality, if applicable) and other permits and legislative requirements applicable to the project.	Contractor, Eskom	Continuous

Activity / issue	Action required	Responsible party	Frequency
	<p>(b) The Contractor shall maintain a database of all pertinent permits and permissions required for the contract as a whole and for critical activities for the duration of the contract.</p>	Contractor, Eskom. ECO	Continuous
<p>1.6 Method Statements</p>	<p>(a) The Contractor shall submit written Method Statements to the Site Manager for the activities identified by the Site Manager or ECO. Activities that will require method statements include:</p> <ul style="list-style-type: none"> • Concrete pre-cast and batching operation (if applicable) • Storage facilities for any hazardous substances • Emergency procedures • Site establishment • Removal and clearing of vegetation • Materials, equipment and staffing requirements (camp establishment) • Transporting the materials and/or equipment to, from and within the site • The storage provisions for the materials and/or equipment • The proposed rehabilitation procedure designed to implement the relevant Environmental Specifications • Other information deemed necessary by the RE and/or ECO. <p>(b) Method Statements shall be submitted at least ten working</p>	Contractor, RE, ECO	As necessary

Activity / issue	Action required	Responsible party	Frequency
	days prior to the proposed commencement of work on an activity to allow the RE (and/or ECO) time to study and approve the method statement.		
	(c) The Contractor shall not commence work on that activity until such time as the Method Statement has been approved in writing by the Site Manager.	Contractor, Manager, ECO Site	Continuous
	(d) The Contractor shall carry out the activities in accordance with the approved Method Statement.	Contractor, Manager, ECO Site	Continuous
	(e) Under certain circumstances, the RE may require changes to an approved Method Statement. In such cases the proposed changes must be agreed upon in writing between the Contractor and the RE, and appropriate records retained.	Contractor, Manager, ECO Site	Continuous

Activity / issue	Action required	Responsible party	Frequency
	(f) Approved Method Statements shall be readily available on the site and shall be communicated to all relevant personnel. Approval of the Method Statement shall not absolve the Contractor from any of his obligations or responsibilities in terms of the EMP specifications.	Contractor, Eskom	Continuous
1.7 Existing Services and Infrastructure	(a) The Contractor shall ensure that existing services (e.g. roads, pipelines, power lines and telephone services) are not damaged or disrupted unless required by the contract and with the permission of the RE. The location of existing services should be determined to prevent accidental damage to and or duplication of these.	Contractor, Site Manager, ECO	Continuous
	(b) The Contractor shall be responsible for the repair and reinstatement of any existing infrastructure that is damaged or services which are interrupted.	Contractor	As necessary
	(c) Such repair or reinstatement will be to the Contractor's cost and shall receive top priority over all other activities.	Contractor	Continuous
	(d) A time limit for the repairs may be stipulated by the Site Manager in consultation with the Contractor	Contractor, RE, ECO	Continuous
1.8 Site Boundaries	(a) The site boundaries within which the contractor may operate should be agreed to prior to the start of the site operations. The contractor should fence or demarcate these at the very start of the project. Access to the site should be restricted to ensure that members of the public are not able to gain access other than via the designated, controlled access points.	Contractor, RE, ECO	Continuous
1.9 "No go" areas	(a) Any particularly sensitive areas should be demarcated as "no-	Contractor, RE, ECO	No go areas

Activity / issue	Action required	Responsible party	Frequency
	go” or restricted access areas. Should additional working space be required at a later date, this should be agreed between the engineer, contractor, and ECO. Authorisation from the engineer should only be given once the potential impacts have been assessed by the ECO.		
1.10 Site Layout	Specific areas should be set-aside within the site for various types of activities. The location of the contractor’s camp, toilet facilities and storage areas should be agreed to prior to the commencement of work at the site and should be agreed in conjunction with the ECO, Engineer and Contractor. These should all be kept in good condition throughout the project to prevent environmental degradation.	Contractor, RE, ECO	Continuous
1.11 Working Hours	Normal working hours apply as laid out in the legislation governing the building industry. These should be agreed prior to the start of the project and should be in line with local by-laws.	Contractor, RE, ECO	Continuous
1.12 Environmental incidents	The contractor must take corrective action to mitigate an incident appropriate to the nature and scale of the incident and must also rehabilitate any residual environmental damage caused by the incident or by the mitigation measures themselves.	EO, ECO, Contractor	Continuous

Table 2: Decommissioning Environmental Management Plan for the Eskom Rock Dump Site

Activity / issue	Action required	Responsible party	Frequency
2.1 Recruitment of labour	(a) The contractor must make use of local labour where possible in order to stimulate the local economy.	Contractor	Once off
	(b) The contractor must appoint one of his employees to act as an Environmental Liaison Officer. This person will be required to monitor the situation with a direct hands-on approach. Eskom internal policies in terms of recruitment of labourers must be implemented.	Contractor	Once off
2.2 Site establishment	(a) Any construction camp (which does not include accommodation) required by the contractor must be established in an area as agreed with the ECO. The site for the construction camp must not be in an environmentally sensitive area such where indigenous vegetation exists, on a steep slope or on erosive soils. The area must be properly demarcated prior to establishment to prevent the construction camp from being unnecessarily large. The camp must be properly fenced off during decommissioning to prevent public access. The EO must liaise with surrounding parties to ensure that the construction camp is not located in an area where it will cause a nuisance.	ECO, Contractor	Once off
	(b) The working width of the construction area must be clearly demarcated by the installation of coloured pegs prior to construction. Particularly sensitive areas (e.g. areas with vegetation to be preserved) must be demarcated with danger tape.	ECO, Contractor	Once off, monitor weekly
	(c) The lateral spread of the construction must be monitored on a weekly basis.	ECO, EO, Contractor	Monitor monthly

Activity / issue	Action required	Responsible party	Frequency
	(d) The use of roads at Matimba Power Station should be determined based on discussions with responsible persons during the negotiation process.	ECO, Contractor	Once off, monitor weekly
	(e) The EO will also be required to monitor unauthorised movement of construction crew.	EO, Contractor	Once off, monitor daily
2.3 Site establishment	(a) A general notice board must be erected at the site entrance, as per DWAF Minimum Requirements for information required to be on the notice board.	ECO, Contractor	Once off, monitor daily
	(b) The Eskom should provide dustbins to be used during site preparation and surveying.	Contractor	Once off, monthly, as and when needed
	(c) To prevent excessive disturbance of natural vegetation, the contractor should use existing disturbed or paved areas wherever possible.	ECO, Contractor	Once off, monitor weekly
	(d) To prevent the deterioration of surface water quality, the contractor must provide adequate ablution facilities. Toilets are to be serviced twice a week as a minimum and as and when required thereafter, throughout the decomisioning phase. Every effort must be made to prevent the contamination of surface or sub-surface water.	Contractor	Bi-weekly inspections
2.4 Appropriate Machinery	The contractor shall at all times carefully consider what machinery is appropriate to the task while minimising the extent of environmental Damage.	Contractor	Continuous
2.5 Site Housekeeping	(a) The site and surrounds are to be maintained in a clean orderly and presentable condition at all times.	Contractor	Monitor Daily

Activity / issue	Action required	Responsible party	Frequency
	(b) Regular inspections by the Contractor (and ECO) will be undertaken using checklists to ensure a minimum standard of orderliness is maintained.	Contractor, ECO	Weekly
	(c) Decommissioning activities shall avoid causing unnecessary disruption and nuisance to adjacent landowners and the public as a whole	Contractor	Continuous
2.6 General: waste	(a) All solid waste will be collected at a central location at each site and will be stored temporarily until removal to an appropriately permitted landfill site in the vicinity of the site.	Contractor	Continuous
	(b) No dumping within the surrounding area is to be permitted. Where potentially hazardous substances are being disposed of, a chain of custody document should be kept with the environmental register as proof of final disposal. General waste is to be collected either by the Municipality or via a waste disposal contractor. The frequency of collections will be such that waste containment receptacles do not overflow.	Contractor	Continuous
	(c) Waste generated at the site should be categorised by the contractor and disposed of in a suitable manner into different waste streams (including general and hazardous waste). Wherever possible recycling should be carried out.	EO, Contractor	Weekly
	(d) Litter generated by the construction crew must be collected in rubbish bins and disposed of weekly at registered waste disposal sites.	EO, Contractor	Weekly

Activity / issue	Action required	Responsible party	Frequency
	(e) All building rubble, solid and liquid waste etc must be disposed of as necessary at an appropriately licensed refuse facility.	EO, Contractor	Once off, as necessary
	(f) Ensure that no refuse wastes are burnt on the premises or on surrounding premises. No fires will be allowed on site, unless in designated areas approved by the ECO)	EO, Contractor	Monitor daily
	(g) All rubble must be removed from the site to an approved disposal site as approved by the Engineer. Burying rubble on the site is prohibited.	EO, Contractor	Monitor daily - weekly
	(h) The site must be kept in a clean and orderly state at all times.	Contractor, Construction crew	Monitor daily
	(i) Ensure that no litter, refuse, wastes, rubbish, rubble, debris and builders wastes generated on the premises be placed, dumped or deposited on adjacent/surrounding properties during or after the decommissioning period of the project are disposed of at dumping site as approved by the Council.	EO, Contractor	Monitor daily - weekly
2.7 Waste Water	(a) The contractor shall ensure that any wastewater generated during decommissioning is disposed to landfill.	ELO, Contractor	Continual
	(b) No decommissioning fluids should be allowed to enter the wastewater system and should be disposed of via the solid waste stream.	ELO, Contractor	Continual
	(c) No liquid waste shall be disposed of to soil or within draining lines	ELO, Contractor	Continual

Activity / issue	Action required	Responsible party	Frequency
	(d) Storm water should be managed in such a way that no overland flow is possible onto the site from any adjacent area. Stormwater drains in the area should be routinely inspected by the environmental officer for solid waste to avoid blockages and associated problems	ELO, Contractor	Continual
2.8 Fire Prevention and Control	(a) The Contractor shall take all reasonable and precautionary steps to ensure that uncontrolled fires are not started as a consequence of his activities on site.	Contractor	Daily
	(b) The Contractor shall ensure that there is basic fire-fighting equipment available on site as per requirement of the local Emergency Services	Contractor, ECO	Continuous
	(c) The Contractor shall ensure that all site personnel are aware of the fire risks and how to deal with any fires that occur. This shall include, but not be limited to: <ul style="list-style-type: none"> • Regular fire prevention talks • Posting of regular reminders to staff. 	Contractor, ECO	Continuous
	(d) Any accidental fires, which occur, shall be reported to the Eskom Environmental Manager immediately and then to the relevant authorities.	Contractor, ECO	Continuous
2.9 Erosion Control	(a) During decommissioning any construction materials should be screened or covered to prevent offsite movement (primarily windblown soil) and the surplus material should be removed from site to an approved disposal site.	Contractor, ECO	Continuous

Activity / issue	Action required	Responsible party	Frequency
2.10 Dust Control	During the decommissioning, phase windblown dust and sand may generate considerable negative impacts (reduced visibility for vehicles travelling along adjacent roads). Mitigatory measures such as the use of non-potable water bowsers and wetting down, as well as the erection of shade netting screens to prevent offsite movement of dust may also be required. The use of straw stabilisation or mulching of exposed sandy areas should also be considered. Alternative measures must be discussed with the ECO and implemented.	Contractor; ECO	Continuous
2.11 Stormwater Management and Control	Storm water will be managed according to the Eskom Guidelines for Erosion Control and Vegetation Management.	Contractor	Continuous
2.12 Machinery Management	(a) All vehicles, equipment, fuel and petroleum services and tanks must be maintained in good condition that prevents leakage and possible contamination of soil or groundwater.	Contractor	Continuous
	(b) Decommissioning machinery should be located away from sensitive areas when parked for extended periods of time. A dedicated parking area should be defined with drip trays beneath any leaking equipment. Fuel/lubricant absorbing media (peat/moss type products) within these drip trays should be used to contain any spilled liquids. These materials should be replaced regularly to prevent oversaturation and potential spillage of free product and must be disposed of as hazardous waste and be collected by an approved contractor/delivered to a suitable waste site.	Contractor	Continuous

Activity / issue	Action required	Responsible party	Frequency
2.13 Emergency Procedures	<p>(a) The Contractor shall submit Method Statements covering the procedures and response plan for the main activities, which could generate emergency situations through accidents or neglect of responsibilities. These situations include, but are not limited to:</p> <ul style="list-style-type: none"> • Accidental fires • Accidental leaks and spillages • Vehicle and plant accidents • Blasting (if required) 	Contractor	As necessary
	<p>(b) Accidental leaks and spillages</p> <ul style="list-style-type: none"> • The Contractor shall ensure that his employees are aware of the procedure for dealing with spills and leaks. • The Contractor shall also ensure that the necessary materials and equipment for dealing with the spills and leaks is available on site at all times. 	Contractor	Continuous
	<p>(c) Hydrocarbon spills</p> <ul style="list-style-type: none"> • The source of the spill shall be isolated and the spillage contained using sand berms, sandbags, sawdust, absorbent material and/or other materials approved by the Site Agent. • The area shall be cordoned off and secured. • The Contractor shall ensure that there is always a supply of absorbent material readily available to absorb/breakdown the spill. • The Contractor shall notify the relevant authorities of any spills that occurs. 	Contractor	As necessary

Activity / issue	Action required	Responsible party	Frequency
	(d) The Contractor shall assemble and clearly list the relevant emergency telephone contact numbers for staff and brief staff on the required procedures.	Contractor	Weekly
2.14 Hazardous Substances	(a) If potentially hazardous substances are to be stored on site, the Contractor shall provide a Method Statement detailing the substances/materials to be used together with the procedures for the storage, handling and disposal of the materials in a manner which will reduce the risk of pollution that may occur from day to day storage, handling, use and/or from accidental release of any hazardous substances used.	Contractor	Monitor daily - weekly
	(b) Hazardous chemical substances (e.g. oil, hydrocarbons) used during decommissioning shall be stored in secondary containers. All potentially hazardous material to be used during the decommissioning phase should be stored in a defined area (hazardous substances store), which is covered, has secondary containment and has restricted access. This area should be constructed in such a manner that any spillages can be contained within this area and to prevent entry into the underlying subsoil and groundwater. A spill management protocol should be produced. Depending on the types of materials stored on site, suitable product recovery materials (such as Spillsorb or Drizit products) should be readily available. The location of the hazardous substances store should be agreed between the ECO, Engineer and Contractor prior to site establishment.	Contractor	Monitor daily - weekly

Activity / issue	Action required	Responsible party	Frequency
	(c) Hazardous chemical substances used during decommissioning shall be stored in secondary containers.	Contractor	Monitor daily - weekly
	(d) The relevant Material Safety Data Sheets (MSDS) shall be available on Site. Procedures detailed in the MSDS shall be followed in the event of an emergency situation.	Contractor	Monitor daily - weekly
	(e) The Contractor must ensure that all hazardous chemical substances are labelled, packed, transported and stored in order to avoid the spread of contamination.	Contractor & Eskom	Monitor daily - weekly
	(f) All hazardous chemical substance waste must be disposed of in accordance with the Hazardous Chemical Substances Regulations, 1995 (Regulation 15).	Contractor & Eskom	Monitor daily - weekly
	(g) The waste, resulting from the use of hazardous materials, shall be disposed of at a hazardous waste disposal site as approved by the RE. Storage and disposal of waste is regulated through other legislation, which should be complied with i.e. the Occupational Health and Safety Act.	Contractor, RE	Monitor daily - weekly
2.15 Health and Safety	(a) The Contractor shall comply with all standard and legally required health and safety regulations as promulgated under the Occupational Health and Safety Act and associated regulations.	Contractor, RE	Daily
	(b) The Eskom must provide and maintain personal protective equipment and facilities to employees working with hazardous chemical substances.	Eskom, Contractor	Daily

Activity / issue	Action required	Responsible party	Frequency
	(c) Official training in the correct fit, use, care, storage and limitations of all Personal Protective Clothing, Respiratory and Hearing Equipment must be given to the employees	Eskom, Contractor	Daily
	(d) The Contractor shall provide a standard first aid kit at the site office of each camp and/or at additional identified locations where needed	Contractor	Daily
2.16 Air Pollution	(a) Unsurfaced roads and temporary roads must be regularly graded and watered to control dust.	Contractor	As and when necessary
	(b) Active earth work areas, stockpiles and loads of soil being transported must be watered to reduce dust.	Contractor	As and when necessary
	(c) Measure must be taken to immediately mitigate a situation in which excessive fugitive dust is observed. Works being undertaken must be undertaken with caution, or phase down while the source is being actively investigated and suppression measures are implemented.	Contractor	As and when necessary
	(d) All areas disturbed during closure of the site that are not required for a specific activity must be revegetated.	Contractor	As and when necessary
	(e) Disturbed soils, slopes and areas of open excavation must be minimised to avoid wind erosion.	Contractor	As and when necessary

Activity / issue	Action required	Responsible party	Frequency
	(f) Diesel exhaust emissions from heavy machinery on site (excavators, front end loaders and hauling trucks) must be controlled and minimised by regular checks and servicing of vehicles. Any construction vehicle found to be emitting excessive smoke should be stopped from the operations for some mechanical attention before it could continue.	Contractor	As and when necessary
	(g) No development will take place within a 100 year floodline.	Contractor	As necessary
2.17 Surface and ground water	(a) The Decommissioning of the waste rock dump must preferably take place during the dry winter months. If construction activities take place in the wet months appropriate measures must be taken to control stormwater and implemented to prevent erosion.	Eskom	Once off
	(b) Ensure that excavated and stockpiled soil material is stored and bermed on the higher lying areas.	EO, Contractor	Once off
	(c) Vegetation clearance must be kept to a minimum to reduce the risk of siltation.	EO, Contractor	Once off
	(d) Adequate provision must be made for sanitation for the construction workers. Chemical toilets on site are to be emptied weekly.	Eskom, ECO, Contractor	Once off
	(e) Construction vehicles are to be maintained in good working order, to reduce the probability of leakage of fuels and lubricants. No servicing of vehicles is to be undertaken in close proximity to watercourses.	EO, Contractor	Once off

Activity / issue	Action required	Responsible party	Frequency
	(f) Construction and the use of construction machinery should be limited between 06h00 and 18h00 on weekdays. However if construction activities need to be outside of these times or on weekends, this needs to be approved by the Project Manager and the EMC, and Authorities must be informed.	Eskom, Contractor	Monitor daily
3.18 General: noisy activities	(a) Noise generation is likely to be one of the biggest impacts at the site during the decommissioning phase. Every attempt should be made to reduce noise levels via the use of efficient, well maintained equipment and the location of any noise generating equipment in noise damped areas or at distant locations from sensitive receptors.	Eskom, Contractor	Monitor daily
	(b) The contractor should use modern equipment, which produces the least noise. Any unavoidably noisy equipment should be identified and located in an area where it has least impact. The use of noise shielding screens should be used and the operation of such machinery restricted to when it is actually required.	Eskom, Contractor	Monitor daily

Activity / issue	Action required	Responsible party	Frequency
	<p>(c) Institute noise control measures throughout the decommissioning phase for all applicable activities, including the construction times.</p> <p>•For mobile equipment noise,</p> <ul style="list-style-type: none"> -select vehicle routes carefully by means of internalising the roads •Fit efficient silencers and enclose engine compartments in plant vehicles <p>• For fixed plant noise</p> <ul style="list-style-type: none"> -Reduce noise at source by damping acoustic treatment, etc. -Isolate source by enclosure in acoustic building, room, etc. -Carefully select fixed plant site for remoteness from sensitive areas -Raise barriers or berms around noisy equipment 	EO, Contractor	Once off, as necessary
	<p>(d) Inform the EMC of planned noisy activities outside the timeframes stated above.</p>	ECO, EO, Contractor	Once off, as necessary
	<p>(e) Construction activities must abide by the national noise laws and the municipal noise by-laws with regard to the abatement of noise caused by mechanical equipment. In the absence of bylaws, national regulations on noise control must be complied with</p>	Eskom, EO, Contractor	Continual
	<p>(f) Prior to blasting (if required), the contractor must inform the adjacent landowners and EMC at least a few days in advance.</p>	EO, Contractor	As necessary
	<p>(g) Ensure that the construction vehicles are under the control of competent personnel and are in proper working order.</p>	Contractor	Before construction commences & continual

Activity / issue	Action required	Responsible party	Frequency
2.19 Blasting and Drilling	<p>(h) In the event that blasting or rock drilling is required, the following recommendations will be implemented.</p> <ul style="list-style-type: none"> - The contractor shall take all necessary precautions to prevent damage to special features and the general environment, which includes the minimisation of, and if required, removals of any fly rock. - Environmental damage caused by blasting / drilling shall be repaired at the contractor's expense to the satisfaction of the ECO and engineer. 	ELO, Contractor	As necessary
	<p>(i) No blasting may be done on Sundays. Careful sealing off of the site and surrounding area will be carried out to ensure that all personnel are removed from the site and its immediate surrounds. Adequate warning must be provided prior to all blasting to all site staff and neighbours. All-clear signals must also be clearly given.</p>	ELO, Contractor	As necessary
2.20 General: Crime, safety and security	<p>(a) Ensure that only suitably qualified personnel use construction vehicles</p>	Contractors	Before construction commences & continual
	<p>(b) Ensure that the contact details of the police or security company and ambulance services are available on site.</p>	Contractor	Once off, monitor weekly
	<p>(c) Limit access to the construction crew camp to construction workers through access control.</p>	EO, Contractor	Once off, Continual
	<p>(d) Ensure that the handling of equipment and materials is supervised and adequately instructed.</p>	EO, Contractor	Continual

Activity / issue	Action required	Responsible party	Frequency
	(e) Vehicular traffic during construction activities must be limited to a maximum speed limit of 30 km/hr.	EO, Contractor	Continual
	(f) Site notices informing the public of the planned activities must be placed at visible locations a few days prior to any blasting.	EO, Contractor	As necessary
2.21 Tree/Vegetation removal	The working strip required for the decommissioning of the waste rock dump must be effectively monitored to prevent excessive vegetation removal. By maintaining the maximum amount of stabilising vegetation, the extent of erosive action will be contained.	EO, Contractor	Monitor weekly
2.21 Stripping of vegetation	(a) Should decommissioning occur in the rainy season, the erection of berms may be necessary in areas prone to erosion (e.g. steep slopes or erosive soils). These bermed areas must be monitored frequently for signs of erosion.	EO, Contractor	Once off, monitor weekly
	(b) Vegetation to be retained during the decommissioning phase must be clearly demarcated with danger tape.	EO, Contractor	Once off, as necessary
	(c) The topsoil cleared must be retained. The topsoil contains most of the inorganic matter, decomposed organisms and nutrients, thus the removal of the topsoil constitutes a major loss in terms of ecosystem function. In order to ensure that the minimal amount of soil is removed with vegetation clearance, it is strongly advised that vegetation be harvested as close to ground level as possible before earthworks machinery is utilised. Soil removed in this manner will contain the existing seed bank, stolons, rhizomes and runners as well as an additional supply of organic matter that will be beneficial during the early stages of vegetation reinstatement. Harvested grass should be retained and used as a mulch to combat erosion.	EO, ECO, Contractor	Once off, monitor weekly

Activity / issue	Action required	Responsible party	Frequency
2.22 Excavation	(a) Topsoil and subsoil must be placed on opposite sides of the trench and must be kept separate throughout construction and rehabilitation.	EO, ECO, Contractor	Monitor weekly
	(b) Topsoil must not be stockpiled for an extensive period (> 3 months). This is to prevent the redundancy of the existing seed bank as well as the alteration of the soil characteristics (permeability, bulk density etc.).	EO, ECO, Contractor	Monitor weekly
	(c) Erect signs and/or danger tape around the exposed excavations to warn the public of the inherent dangers.	EO, Contractor	Continual
	(d) Trucks removing excavated material can cause compaction of soil if new pathways are created. Vehicles should, therefore, use existing roads. If the creation of new roads is unavoidable, these temporary roads should be ripped and re-vegetated after use.	ECO, Contractor	Monitor weekly
2.23 Removal of excavated material	Ensure that excavated and stockpiled soil material is stored and bermed on the higher lying areas of the site and not in any storm water run-off channels or any other areas where it is likely to cause erosion or where water would naturally accumulate.	ECO, Contractor	Once off, Daily
2.24 Stockpiling soil	The areas where excavated soil will be stockpiled must be bordered by berms to prevent soil loss caused by rain.	EO, Contractor	Once off, monitor weekly

Activity / issue	Action required	Responsible party	Frequency
	(a) Archaeological material, by its very nature, occurs below ground. The Contractor should therefore keep in mind that archaeological sites might be exposed during construction. If any are noticed, construction personnel must be alerted and must inform the local SAHRA should they come across any cultural/archaeological findings. Work should be stopped in the area until such time when the archaeologist or SAHRA or both had observed the area and recommended a way forward.	Contractor	As necessary
2.25 Destruction/protection of heritage resources	(b) Should any archaeological artefacts be exposed during excavation, work on the area where the artefacts were found, shall cease immediately and the ECO shall be notified as soon as possible.	EO, Contractor	Monitor daily
	(c) Upon receipt of such notification, the ECO will arrange for the excavation to be examined by an Archaeologist as soon as possible.	ECO, Contractor	As necessary
	(d) Under no circumstances shall archaeological artefacts be removed, destroyed or interfered.	EO, Contractor	Continuous
	(e) Any archaeological sites exposed during construction activities may not be disturbed prior to authorisation by the South African Heritage Resources Agency.	ECO, Contractor	As necessary
	(f) Sensitive environments and natural features within and/or close to a site will be designated as 'no-go' areas and will be subject to the conditions described in the Environmental Specification	Contractor, ECO	As necessary

Activity / issue	Action required	Responsible party	Frequency
2.26 Protection of Sensitive Environments and Natural Features	Any taxa, especially those of conservation concern (as per the ecological report) exposed during the closure of the site should be captured for later release or translocation to adjacent suitable habitat.	Contractor, ECO	As necessary
2.27 Aesthetic/ visual	(a) Prevent unnecessary removal of vegetation outside the width of the working area by clearly demarcating the working area.	EO, Contractor	Continual
	(b) Remove spoil material from the area once the trench has been filled.	Contractor, Construction crew	Continual
	(c) Remove vegetation and topsoil and stockpile separately from subsoil prior to excavation of the cable trench.	EO, Contractor	Continual
	(d) Revegetate disturbed ground in the working area by seeding and spreading of vegetation that has been removed from the trench at the start of construction.	EO, Contractor	Continual
2.28 Site closure	(a) The site is to be cleared of all decommissioning phase materials, including litter prior to hand over	EO, ECO, Contractor, Eskom Project Manager	Once off
	(b) Fences, barriers and demarcations associated with the operational phase must be removed from the site unless stipulated otherwise by the Engineer.	EO, ECO, Contractor, Eskom Project Manager	Once off
	(c) The site must be fully rehabilitated and stabilised (for example, through revegetation	EO, ECO, Contractor, Eskom Project Manager	Once off

Activity / issue	Action required	Responsible party	Frequency
	(d) A meeting must be held on site between the Engineer, ECO and the Contractor to approve all remediation activities and ensure that the site has been restored to a condition approved by the Engineer.	EO, ECO, Contractor , Eskom Project Manager	Once off

Table 3: Monitoring Environmental Management Plan for the Eskom Decommissioned Rock Dump Site

Activity / issue	Action required	Responsible party	Frequency
2.1 Stormwater Management		ELO, Contractor	Continual
	(a) Storm water outfalls should be linked to the existing municipal stormwater management system.	ELO, Contractor	Continual
	(b) Storm water, wherever possible, must be allowed to soak into the land in the area on which the water has been discharged.	Eskom	Continuous
	(c) The storm water system, especially the discharge points, must be inspected and damaged areas must be repaired if required.	Eskom	Continuous
	(d) No waste or refuse must be allowed to access the storm water infrastructure	Eskom	Continuous
	(e) Discharge points must be inspected for blockages of any kind; these must be removed timeously to ensure the efficient operation of the storm water management system.	Eskom	Continuous
	(f) Excessive quantities of silt laden runoff water must not be allowed to access the storm water system. In the event that silt runoff occurs off the development site, the cause of this must be investigated and suitable mitigation measures employed. This may include the vegetation of bare areas, installing flow diversion channels in consultation with an engineer, installing velocity reducing structures etc.	Eskom	Continuous
	(g) Where vegetation has been utilised as part of the storm water management system, it is important to ensure that the vegetation is maintained for effective infiltration.	Eskom	Continuous

Activity / issue	Action required	Responsible party	Frequency
	<p>(h) Where silt traps have been incorporated as part of the storm water management system these must be maintained as per the engineers requirements, the maintenance crew must be informed as to the correct procedure, in terms of the engineers specifications, how the silt trap is to be maintained.</p> <p>(i) The silt trap must be monitored for efficiency; the management body must consult the engineers should the system not function adequately.</p>	Eskom	Continuous
	<p>(j) Great care should be taken to make sure that the sumps do not overflow, such that they can spill to contaminate the environment.</p>	Eskom	Continuous

Please note recommendations from the geohydrological assessment (**Appendix C1**) and the Closure plan (**Appendix 1** of Draft EMP) regarding post monitoring programmes should be implemented.

3. WASTE MANAGEMENT PLAN

The Waste Management Plan will be applicable during the decommissioning and will be for use by the Contractors and the sub contractors that will be involved during the closure of the site. Although many of the Waste Management procedures have already been included in the general and operation EMP, the Eskom, Subcontractors, on site workers and other suppliers are expected to adhere to both the specifications of the general EMP and the WMP procedures for the duration of the contract.

Table 4: Decommissioning Waste Environmental Management Plan for the rock dump

Activity / issue	Action required	Responsible party	Frequency
4.1 Site establishment	(a) The Eskom should provide dustbins to be used during site preparation and surveying.	ECO, Contractor	Once off
	(b) Prior to decommissioning commencing, adequate waste bins should be provided in order to prevent littering on site.	Contractor	Monitor weekly
	(c) The Contractor must ensure that provision is made for the separation of waste into categories for easy recycling and disposal purposes.	Contractor	Monitor monthly
	(d) The Contractor must liaise with the Local Authority or the responsible company for the collection of domestic waste on a weekly basis, depending on the volumes and quantities generated thereof.	Contractor, EO & ECO	Monitor weekly
	(e) The Contractor must ensure that there is an area that has been clearly demarcated as a temporal storage for general, hazardous and recyclable wastes.	Contractor	Monitor weekly

Activity / issue	Action required	Responsible party	Frequency
	(f) The Contractor must ensure that necessary arrangements are made beforehand for the safe disposal of hazardous materials generated on site by an accredited waste company.	Contractor, EO	Monitor weekly
	(g) The Contractor will also be required to make necessary arrangement for the storage and collection of recyclable waste that is generated on site.	EO, Contractor	Monitor weekly
4.2 Site control, Demarcation, Security, Access Control in Waste Storage areas	(a) Waste storage areas shall be provided with signs and display boards which inform everyone entering the site of the demarcated waste storage areas.	Eskom	Once off, monthly
	(b) All Waste Storage areas including areas where potentially hazardous waste is stored shall be adequately fenced in and secured to prevent any access of public members and unauthorised people.	ECO, Contractor	Once off, monitor weekly
	(c) Areas, Containers and Skips identified for the storage of general, recyclables wastes shall be clearly marked to indicate the intended purposes i.e., glass only.	ECO, Contractor	Once off, Bi-weekly inspections
4.3 Requirements for Waste Management and Collection Contractors	(a) General waste shall be collected by a recognised service provider and be disposed off in registered waste site.	ECO, Contractor	Monitor Daily
	(b) Recyclable waste shall be collected by a recognised recycling service provider for appropriate recycling purposes.	Contractor, ECO	Weekly
	(c) Scrap metals, steel, and glass must be collected in separate waste skips and each container intended for identified recyclable waste must be clearly marked, i.e. scrap metals only	Contractor, ECO	Weekly

Activity / issue	Action required	Responsible party	Frequency
4.4 General: waste	(a) Litter generated by the construction crew must be collected in rubbish bins and disposed of weekly at registered waste disposal sites.	EO, Contractor	Weekly
	(b) All building rubble, solid and liquid waste etc must be disposed of as necessary at an appropriately licensed refuse facility.	EO, Contractor	Once off, as necessary
	(c) The Contractor must ensure that no refuse wastes are burnt on the premises or on surrounding premises. No fires will be allowed on site.	EO, Contractor	Monitor daily
	(d) The construction site must be kept in a clean and orderly state at all times.	Contractor, Construction crew	Monitor daily
	(e) Wet waste should by no means escape from the waste truck whilst in transit (f)	EO, Contractor	As necessary
	(g) The Contractor must ensure that no litter, refuse, wastes, rubbish, rubble, debris and builders wastes generated on the premises be placed, dumped or deposited on adjacent/surrounding properties during or after the construction period of the project are disposed of at dumping site as approved by the Council.	EO, Contractor	Monitor daily - weekly
	(h) The Contractor must ensure the Waste collection vehicles, when collecting waste from site, are equipped with covers to prevent waste from being blown off the waste collection vehicle during transportation.	EO, Contractor	As necessary
	4.5 Liquid waste	(a) Wet waste must be contained in such a fashion that whilst in transit, no liquid escapes from the load area.	Contractor

Activity / issue	Action required	Responsible party	Frequency
	(b) If potentially hazardous wastes are to be stored on site, the Contractor shall provide a Method Statement detailing the substances/materials to be used together with the procedures for the storage, handling and disposal of the materials in a manner which will reduce the risk of pollution that may occur from day to day storage, handling, use and/or from accidental release of any hazardous substances used.	Contractor,	Monitor daily - weekly
4.6 Hazardous Substances	(a) Hazardous chemical substances used during the closure of the rock dump shall be disposed off appropriately.	Contractor	Monitor daily - weekly
	(b) Used oil from construction must be collected in drums and stored properly		
	(c) The waste, resulting from the use of hazardous materials, shall be disposed off at a hazardous waste disposal site as approved by the RE. Storage and disposal of waste is regulated through other legislation, which should be complied with i.e. the Occupational Health and Safety Act.	Contractor, Site Manager	Monitor daily - weekly
	(d) The Contractor and the EO must ensure that all persons involved in waste collection, sorting, transport and disposal have undergone the necessary training during the operational phase.	Contractor. ECO	Once off
4.7 Health Risks	The Contractor shall keep records for the regular collection of all waste types and disposal thereto, details of waste company responsible for waste collection. An example of such a form is included in Appendix 2 .	Contractor	Monitor monthly

Activity / issue	Action required	Responsible party	Frequency
4.8 Record Keeping	Waste storage areas must have adequate provision in place to prevent fires.	Contractor	As necessary
4.9 General	The retention of waste on site should not be for more than 90 days	Contractor	Continuous
	Containers must be emptied frequently to avoid rodents, insects or any other organisms accumulating on the site and becoming a health hazard to adjacent properties.	Construction crew, ELO	Continuous

6. CONCLUSION

Provided this project is mitigated, as per the EMP, the project will result in impacts that should not negatively affect the environment. It is the applicant's responsibility to ensure that this EMP is made binding on the contractor by including the EMP in the contract documentation. The contractor should thoroughly familiarise himself with the requirements of the EMP and appoint an environmental liaison officer (ELO) to oversee the implementation of the EMP on a day-to-day basis.

Parties responsible for transgression of this EMP should be held responsible for any rehabilitation that may need to be undertaken. Parties responsible for environmental degradation through irresponsible behaviour/negligence should receive penalties.

Key issues

- Decommissioning should take place in the dry season (where possible), leaving enough time for the germination of seeds and revegetation of barren areas before the onset of the rainy season;
- All hazardous waste must be disposed of at the hazardous waste site and registers be kept thereof;
- Proper warning tape (e.g. orange danger nets) must be erected to inform public of the inherent dangers; and
- Should blasting activities be required on certain areas during foundations excavations, it is important the relevant permits be obtained and that the adjacent landowners are informed of these planned activities a few days in advance and that site notices informing the public are strategically placed at visible locations.

Appendix F1
Geohydrological assessment

Appendix 1

Closure and End use Plan

APPENDIX 3: AN EXAMPLE OF INCIDENT AND ENVIRONMENTAL LOG

ENVIRONMENTAL INCIDENT LOG				
Date	Env. Condition	Comments <i>(Include any possible explanations for current condition and possible responsible parties. Include photographs, records etc. if available)</i>	Corrective Action Taken <i>(Give details and attach documentation as far as possible)</i>	Signature

