Decommissioning of the existing and construction of a new KOEBERG INSULATOR POLLUTION TESTING STATION Environmental Management Plan

I. OBJECTIVES OF THE ENVIRONMENTAL MANAGEMENT PLAN

The compilation of this Environmental Management Plan (EMP) forms part of the requirements of the EIA Regulations 2014 and compliance with the contents of this report is required during the construction and operational phases of the project. The EMP serves as an environmental management tool by providing a generic structured plan of mitigatory measures, which serves as a guide to assist in minimising the potential environmental impact of the activity that may arise during the construction and operational phases.

The EMP provides a set of guidelines for the environmental management of all works to be executed by the Engineer and Contractor, so as to have a minimum impact on the environment in accordance with all relevant legislation, policies and standards.

In this context it should be viewed as a dynamic or 'living' document, which may require updating, or revision during the life-cycle of the project to address new circumstances as the need arises. It is essentially a written plan of how the environment is to be managed in practical and achievable terms.

The effectiveness of the EMP is limited by the level of adherence to the conditions set forth in this report by the Developer and the Contractor. It is further assumed that compliance with the EMP will be monitored on a regular basis as set out in the EMP and contractual clauses.

The EMP forms part of the Contract Documentation and is thus a legally binding document. An individual responsible for environmental damage must pay costs both to environment and human health and the preventative measures to reduce or prevent additional pollution and/or environmental damage from occurring (the Polluter Pays Principle).

Further to the above, the following objectives apply:

- To state the standards and guidelines which Eskom will be required to adhere to in terms of environmental legislation;
- To set out the mitigation measures and environmental specifications which Eskom will be required to implement for the construction phase of the project in order to minimise the extent of environmental impacts, and where possible to improve the condition of the environment;
- To provide guidance regarding the method statements which Eskom will be required to compile and implement to achieve the environmental specification;
- To define corrective actions which Eskom must take in the event of non-compliance with the specifications of this EMP;
- To mitigate potential negative impact associated with the project and ensure optimising of positive impact;
- To prevent long-term or permanent environmental degradation;
- To ensure that the applicant, construction workers and the operational and maintenance staff are well acquainted with their responsibilities in terms of the environment;
- To ensure that communication channels to report on environment related issues are in place.

II. DETAILS OF THE PERSON WHO PREPARED THE EMP

This Environmental Management Plan was prepared by Landscape Dynamics cc, an environmental consultancy firm established in May 1997. Their core business involves the execution of Environmental Impact Assessments that include the compilation of Environmental Management Plans for all of these projects. The team members responsible for this project and the compilation of the EMP are Annelize Grobler (012 460 6043 / 082 566 4530 / agrobler@landscapedynamics.co.za), a qualified landscape architect specialising in the field of environmental impact assessments, and Susanna Nel (021 855 0912 / 082 888 4060 / susanna@landscapedynamics.co.za).

III. DETAILS OF THE PROPOSED ACTIVITY

The applicant is Eskom Holdings Limited, Eskom Distribution – Western Operating Unit: Land Development. The contact person is Ms Justine Wyngaardt at the Eskom offices in Brackenfell, Cape Town (Tel 021 980 3112 / 082 938 3479 / Fax 082 980 3503 / justine.wyngaardt@eskom.co.za).

The project entails the following:

- The existing Koeberg Insulator Pollution Testing Station (KIPTS) was used during the past 30 years and is still in operation. However, due to changes in environmental factors (movement of sand dunes) operation at this site cannot continue. This project therefore entails the decommissioning of the existing testing station and the construction of a new KIPTS in a similar environment to that of the existing testing station.
- It will be constructed on land of approximately 13 250m^2 (1.325 hectares).
- Associated infrastructure entails an access road with a maximum length of 1.6km, an 11kV power line as well as sewerage and water supply pipelines, all with a maximum length of 250m (these lengths are measures from the new KIPTS to the security fence of the Koeberg Power Station).
- The temporary laydown areas and construction site camp will be approximately 1 500m^2.

Approval of corridor for future position of the access road

- It is not possible at this stage to determine the exact position of the access road because it can only be determined much later on once security issues have been cleared and the position of the future 400kV substation has been determined (note that the 400kV substation does not form part of this project proposal). Important to note is that the Koeberg Nuclear Power Station is a Key Point as determined by the National Key Points Act 102 of 1980 and security is exceptionally strict.
- It is therefore proposed that a corridor be approved by the Department of Environmental Affairs in which the access road can be located once all factors as mentioned have been confirmed. A map of this corridor is provided under Appendix A: Final Layout Plan.

The project site is situated on land belonging to the Koeberg Nuclear Power Station (KNPS), to the north of the West Coast town of Melkbosstrand within the jurisdiction of the City of Cape Town Metropolitan Municipality, Western Cape.

IV LEGAL REQUIREMENT

The applicable legislation in terms of the environment refers to procedures prescribed by the provisions of the Environmental Impact Assessment Regulations, 2014 and amended in April 2017, made under Section 24 (5) of the National Environmental Management Act, 1998 (Act No 107 of 1998) (NEMA). Of particular importance is Section 28 (1) of NEMA which places an obligation on all individuals to take due care of the environment

and to ensure remedial action is instituted to minimise and mitigate environmental impact.

The relevant applicable activities for which environmental authorisation had been applied for are:

Listing Notice 1	
GN 983, Dec 2014, Number 17 Development— (i) in the sea; (ii) in an estuary; (iii) within the littoral active zone; (iv) in front of a development setback; or (v) if no development setback exists, within a distance of 100 metres inland of the high-water mark of the sea or an estuary, whichever is the greater; in respect of— a) fixed or floating jetties and slipways; b) tidal pools; c) embankments; d) rock revetments or stabilising structures including stabilising walls; or e) infrastructure or structures with a development footprint of 50 square metres or more — but excluding— (aa) the development of infrastructure and structures within existing ports or harbours that will not increase the development footprint of the port or harbour; (bb) where such development is related to the development of a port or harbour, in which case activity 26 in Listing Notice 2 of 2014 applies; (cc) the development of temporary infrastructure or structures where such structures will be removed within 6 weeks of the commencement of development and where coral or indigenous vegetation will not be cleared; or (dd) where such development occurs within an urban area.	The new KIPTS will be constructed within 100m from the high-water mark of the sea. The development will be more than 50m^2.
Activity 19A 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 of more than 5 cubic metres from— (i) the seashore; (ii) the littoral active zone, an estuary or a distance of 100 metres inland of the highwater mark of the sea or an estuary, whichever distance is the greater; or (iii) the sea; — but excluding where such infilling, depositing , dredging, excavation, removal or moving— (f) will occur behind a development setback; (g) is for maintenance purposes undertaken in accordance with a maintenance management plan; (h) falls within the ambit of activity 21 in this Notice, in which case that activity applies; (i) occurs within existing ports or harbours that will not increase the development footprint of the port or harbour; or where such development is related to the development of a port or harbour, in which case activity 26 in Listing Notice 2 of 2014 applies.	Foundations for the new KIPTS will be excavated within 100m from the high-water mark of the sea. Excavation will exceed 5m^3.

GN 983, Dec 2014, Number 24 The development of a road— (i) 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 Government Notice 545 of 2010; or (ii) with a reserve wider than 13,5 meters, or where no reserve exists where the road is wider than 8 metres; but excluding a road— a) which is identified and included in activity 27 in Listing Notice 2 of 2014; b) where the entire road falls within an urban area; or c) which is 1 kilometre or shorter.	An access road with a maximum length of 1.6km and with an approximate width of 10m will be constructed.
GN 983, Dec 2014, Number 27 The clearance of an area of 1 hectares or more, but less than 20 hectares of indigenous vegetation, except where such clearance of indigenous vegetation is required for— (i) the undertaking of a linear activity; or (ii) maintenance purposes undertaken in accordance with a maintenance management plan.	Indigenous vegetation of more than 1 hectare will be cleared for the new KIPTS and access roads.
Activity 31 The decommissioning of existing facilities, structures or infrastructure for— (i) any development and related operation activity or activities listed in this Notice, Listing Notice 2 of 2014 or Listing Notice 3 of 2014; (ii) any expansion and related operation activity or activities listed in this Notice, Listing Notice 2 of 2014 or Listing Notice 3 of 2014; (iii) … (iv) any phased activity or activities for development and related operation activity or expansion or related operation activities listed in this Notice or Listing Notice 3 of 2014; or (v) any activity regardless the time the activity was commenced with, where such activity: (a) is similarly listed to an activity in (i) or (ii) above; and (b) is still in operation or development is still in progress; excluding where— (aa) activity 22 of this notice applies; or the decommissioning is covered by part 8 of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) in which case the National Environmental Management: Waste Act, 2008 applies.	The existing KIPTS will be decommissioned.

Listing Notice 3	
GN 985, Dec 2014, Number 4 The development of a road wider than 4 metres with a reserve less than 13,5 metres i. Western Cape i. Areas zoned for use as public open space or equivalent zoning; ii. Areas outside urban areas; (aa) Areas containing indigenous vegetation;	A road of wider than 4m will be constructed in areas that contain indigenous vegetation.

(bb) Areas on the estuary side of the development setback line or in an estuarine functional zone where no such setback line has been determined; or iii. Inside urban areas: (aa) Areas zoned for conservation use; or (bb) Areas designated for conservation use in Spatial Development Frameworks adopted by the competent authority.	
GN 985, Dec 2014, Number 12 The clearance of an area of 300 square metres or more of indigenous vegetation except where such clearance of indigenous vegetation is required for maintenance purposes undertaken in accordance with a maintenance management plan. i. Western Cape (i) Within any critically endangered or endangered ecosystem listed in terms of section 52 of the NEMBA or prior to the publication of such a list, within an area that has been identified as critically endangered in the National Spatial Biodiversity Assessment 2004; (ii) Within critical biodiversity areas identified in bioregional plans; (iii) Within the littoral active zone or 100 metres inland from high water mark of the sea or an estuarine functional zone, whichever distance is the greater, excluding where such removal will occur behind the development setback line on erven in urban areas; (iv) On land, where, at the time of the coming into effect of this Notice or thereafter such land was zoned open space, conservation or had an equivalent zoning; or (v) On land designated for protection or conservation purposes in an Environmental Management Framework adopted in the prescribed manner, or a Spatial Development Framework adopted by the MEC or Minister.	An area of more than 300m^2 of indigenous vegetation will be cleared. The study area is situated on land which has been identified as Endangered – also refer to the *Threatened Ecosystem* map as attached under Appendix A. The natural vegetation in most of the study area is Cape Flats Dune Strandveld which is classified as being Endangered.
GN 985, Dec 2014, Number 18 The widening of a road by more than 4 metres, or the lengthening of a road by more than 1 kilometre. i. Western Cape i. Areas zoned for use as public open space or equivalent zoning; ii. All areas outside urban areas: (aa) Areas containing indigenous vegetation; (bb) Areas on the estuary side of the development setback line or in an estuarine functional zone where no such setback line has been determined; or iii. Inside urban areas: (aa) Areas zoned for conservation use; or (bb) Areas designated for conservation use in Spatial Development Frameworks adopted by the competent authority.	Sections of the existing access roads will be widened by more than 4m into areas that contain indigenous vegetation.

Application for environmental authorisation had been lodged with the Department of Environmental Affairs (DEA).

V. DETAILS OF PERSONS RESPONSIBLE FOR IMPLEMENTATION OF EMP

The following undertaking must be filled out and signed by the applicant and forwarded to DEA prior to commencement of construction:

AGREEMENT & UNDERTAKING OF THE APPLICANT

I hereby confirm and state that I am aware of the contents of the Environmental Management Plan and the conditions of the Environmental Management Plan and shall comply with all legislation pertaining to the nature of the work to be done and all things accidental thereto.

Signed on behalf of _____

Date: _____

Place: _____

Signature: _____

Full Name: _____

Postal Address: _____

Physical Address: _____

Office Telephone Number: _____

AGREEMENT & UNDERTAKING OF THE ENVIRONMENTAL CONTROL OFFICER

The following details of the Environmental Control Officer must be filled out, signed and forwarded to the Department of Environmental Affairs prior to construction:

Company Name: _____

Contact Person(s): _____

Physical Address: _____

Street Address: _____

Office Telephone Number: _____

Cell phone Number: _____

Fax Number: _____

V. PROPOSED MECHANISM FOR COMPLIANCE

Key impacts generally associated with Eskom construction activities and others which are specifically applicable to this project are:

- Impact on natural habitat (fauna and flora)
- Impact on freshwater resources
- Impact on sand dunes
- Impact on cultural heritage resources
- Impact on the adjacent Koeberg Nature Reserve
- Risk of groundwater pollution
- Risk of erosion
- Community Impact (security, noise, dust, etc.)

Specifications and conditions are hereby provided to limit and/or prevent impact on these components during all the phases of project development, namely

- Specifications applicable throughout all Phases of Project Development
- Design & Pre-construction Phase
- Construction Phase
- Post-construction & Operational Phase

ROLES AND RESPONSIBILITIES
SPECIFICATIONS APPLICABLE THROUGHOUT ALL PHASES OF PROJECT DEVELOPMENT

DEPARTMENT OF ENVIRONMENTAL AFFAIRS
The National Department of Environmental Affairs (DEA) is the designated authority responsible for authorising this EMP. DEA has overall responsibility for ensuring that the Applicant complies with the conditions of Environmental Authorisation and the EMP.

DEA shall also be responsible for approving any amendments to the EMP (if required). DEA may also perform random site inspections to check compliance with the EMP.

DEPARTMENT OF WATER AFFAIRS
The Department of Water Affairs has confirmed rights to inspect the project at any time to ensure compliance with relevant legislation.

ESKOM HOLDINGS SOC LIMITED (DEVELOPER)
The Applicant is the Developer and has overall responsibility for compliance with the EMP as it is a fundamental component of the authorisation requirements for the project.

This means that the Developer must:
- Ensure that the professional team and the Contractors are appropriately briefed and that their appointment includes environmental requirements as relevant;
- Ensure that he/she is kept fully informed of the performance of the project against the requirements of the EMP;
- Ensure that appropriate action is taken where consistent incidents of non-compliance are taking place;
- Ensure that any corrective action required by the authorities is implemented.

Project Co-ordinator (PC)
The primary responsibility of the Project Co-ordinator (PC) is to ensure that the Contractor complies with the environmental specifications in this document. In addition the PC shall:
- Assume overall responsibility for the effective implementation and administration of the EMP;
- Ensure that the EMP is included in the Contractors' contract (including all subcontractors);
- Ensure that the EMP and any other relevant documentation are provided to the applicable contractors;
- Inform Environmental Practitioner of the date of construction at least 2 months in advance.

Construction Supervisor and the Contractor (if utilised);
- Undertake regular inspections of the Contractor's site (in conjunction with the Clerk of Works, where relevant) as well as the powerline servitude in order to check for compliance with the EMP in terms of the specifications outlined in this document.
- Keep a register of major incidents (spills, injuries, complaints, legal transgressions, etc.) and any other relevant issues related to the EMP;
- Report any problems (or complaints) concerning the environment arising out of the construction phase to the appointed Environmental Control Officer;
- To ensure Contractor staff are trained in accordance with the EMP;
- To implement recommendations of possible audits.

- Appoint an experienced Environmental Site Representative who represents the contractor and oversees the daily implementation of the EMP, environmental checklists, maintain incident and complaint registers, manage ad hoc incidents like oil spills, do induction / environmental awareness training for all people who access the construction site, coordinate waste disposal and separation (general housekeeping on site), etc.
- The Environmental Site Representative should have an appointment letter stipulating roles and responsibilities.
- The contractor Environmental Site Representative to have the following training, from a recognised or accredited institution:
    - Oil Spill Management Training
    - Integrated Waste Management
    - Environmental Awareness /Induction
    - Tree Identification (vegetation management)
    - Environmental Law Training
    - Environmental Authorisation_Environmental Management Plan (EA_EMP) Training
- The Environmental Site Representative to be permanently on site during construction.

Eskom construction team or external construction contractor and all subcontractors

The construction team / contractor / subcontractor shall:

- Ensure that the environmental specifications of this document are effectively implemented. This includes the on-site implementation of steps to mitigate environmental impacts;
- Monitor environmental performance and conformance with the specifications contained in this document during site inspections;
- Discuss implementation of and compliance with this document with staff at routine site meetings;
- Report non-compliances to EMP and Environmental Authorisation to PC and Environmental Control Officer (ECO) immediately (on discovery), within 24 hours of the event discovered or occurred;
- Report progress towards implementation of and non-conformances with this document at site meetings with the PC;
- Ensure that suitable records are kept and appropriate documentation is available to the PC; and
- Ensure that construction employees are trained in accordance with the requirements of the EMP.

The Contractor will conduct all activities in a manner that minimises disturbances to and impacts on the environment.

The Contractor is deemed not to have complied with this EMP if:

- There is evidence of contravention of clauses within the boundaries of the property and adjacent areas during the Construction Phase;
- If environmental damage ensues due to negligence;
- The Contractor fails to comply with corrective or other instructions issued by the Local Authority, PC, ECO, or the Developer within a specified time;
- Failure to take any reasonable measure to protect the environment if there is a perceived or identified environmental risk associated with an activity that has not been defined in the EMP; and
- The Contractor fails to respond adequately to complaints from the public.

Application of a penalty clause will apply for incidents of non-compliance as per the Schedule of Fines as mentioned below. Such fines will be paid by the Contractor to the Developer and will be used in rehabilitation and / or landscaping.

Environmental Control Officer (ECO)

A suitably qualified and experienced independent ECO should be appointed. The key responsibility of the ECO is to ensure that all the conditions stipulated in the Environmental Authorisation are being adhered to and should monitor project compliance with the conditions of the Environmental Authorisation, environmental legislation, the recommendations of the EMP as well as all other applicable permits.

Furthermore, the duties of the ECO shall include, inter alia, the following:

- Ensuring the necessary environmental authorisations and permits, if any, has been obtained;
- Advising the Contractor on environmental issues within defined construction areas;
- Undertaking once-per-month site visits, or more if required to ensure compliance with this EMP;
- Completing environmental checklists during site visits and keeping a photographic record of progress on site from an environmental perspective;
- The ECO should be proactive in assisting / intervention to avoid incidents
- Reporting back on any environmental issues/incidents to the DEA as reported to by the Contractor; and ensure that DEA is informed of work progress on site;
- Preparing an environmental audit report at the conclusion of the construction phase.
- Attending site meetings where applicable and where necessary inspect the construction site on a regular basis to ensure that the mitigation and rehabilitation measures are applied.
- Make reasonable amendments to the EMP in co-operation with the contractor. Penalties for non-compliance must be enforced.
- Remain employed until all rehabilitation measures as required for implementation due to construction damage, are completed and the site is handed over to Eskom by the contractor.
- Any conservation authority/institution as listed in the List of Interested and Affected Parties for the project should be allowed reasonable access to the construction site on request and arrangement with the ECO and the contractor.
- Assist contractor / Eskom contractor with the drafting of any Method Statements required.

Environmental Training and Awareness

The purpose of the environmental training is to communicate potential environmental impacts relating to construction activities to contractors to ensure that precautionary measures are undertaken to avoid and/or mitigate the impacts. Environmental awareness training sessions should be undertaken prior to any work commencing by any contractor or sub-contractor on site as well as throughout the construction phase. The ECO shall give initial EMP training prior to any work starting on site. The training record must be kept on the project file for each training session.

Where possible the presentation will be conducted in the language of the employees. The environmental training could, as a minimum, include the following:

- The importance of conforming with all environmental policies, procedures, plans and systems;
- The significant environmental impacts, actual or potential, which could result from their work activities;
- The environmental benefits of improved personal performance;
- The roles and responsibilities in achieving conformance with the environmental policy and procedures, including emergency preparedness and response requirements;
- The potential consequences of departure from specified operating procedures
- The mitigation measures to be implemented when carrying out their work activities;
- The importance of not littering;
- The need to use water sparingly;
- Details of, and encouragement to, minimising the production of waste and re-use, recover and recycle waste where possible;
- Details regarding palaeontological, archaeological and historical sites which may be unearthed during construction, and the procedures to be followed should these be encountered;

- The procedures which should be followed should a grave or any other archaeological and/or palaeontological finds be encountered or unearthed during the construction phase;
- Details regarding flora and fauna of special concern, including protected/endangered plant and animal species, and the procedures to be followed should these be encountered during construction.

EMP training and awareness before commencement of construction

- Eskom will provide an Environmental Management Plan and Awareness Training for all employees of the Contractor, sub-contractor, consultants, agents, visitors and suppliers. The initial training workshop will be held prior to any work commencing on site. The Contractors shall ensure that all construction personnel, including senior route staff, sub-contractors and suppliers etc., attend the environmental awareness-training prior to commencing any work i.e. camp establishment, clearing and installations. Additional staff, sub-contractors and suppliers coming on to the route must attend an environmental awareness workshop prior to the commencing their duties. Subsequent training and awareness sessions will be arranged at a mutually agreed time and venue.
- The main contractor must provide the ECO with (a) a list of all sub-contractors and their scope of work for the contract and (b) a time schedule of works before the initial environmental training awareness session is scheduled. This will assist the ECO to schedule subsequent EMP awareness training sessions as and when required.
- No construction work may take place on site unless under the supervision of a person who has attended an Environmental Awareness session.
- The PC shall inform the environmental practitioner prior to starting construction, so that training can be given.

EMP awareness training throughout the construction phase

- EMP awareness training must be given to new contractors and sub-contractors that start to work on site throughout the construction phase at various stages.
- All contractor and sub-contractor teams involved in work on site must be briefed on their obligations towards environmental controls and methodologies in terms of this EMP prior to commencement of any construction and construction related activities on an on-going basis throughout the construction phase.
- In the case of new workers coming on site throughout the construction programme, the site contractor is responsible to ensure all new labour arriving on site is made aware of the contents of the EMP and is briefed on the Environmental Awareness Training session.
- A register must be kept of all training given to contractors and sub-contractors, indicating the date, time, venue, attendees, name of trainer, name of contractor, signatures and unique numbers / identity numbers of attendees.
- If the construction is phased and the activities are different, a training session must be conducted before the commencement of each phase. The environmental issues, construction impacts and mitigation measures for each phase must be discussed in detail at this training session.

Emergency Management

All emergency incidents should be investigated in terms of Eskom's EPC 32-95: Safety, Health & Environmental Incident Management Procedure, in addition to any ELC requirement. This procedure describes the high-level intention for the effective incident management of work-related incidents as well as environmental damage. The aim of this procedure is to ensure and facilitate the effective and efficient management of incidents from the moment that one occurs, until it can be audited that corrective and preventive measures were developed and taken. This procedure is supported by annexes which set out the detailed rules, requirements and action steps as well as useful examples and templates. These two have to be read and applied together to ensure that the aim of this procedure and its supporting annexes is met.

An **Emergency Incident** can be defined as an unexpected sudden occurrence, including a major emission, fire or explosion leading to serious danger to the public or potentially serious pollution of or detriment to the environment, whether immediate or delayed. It is also an accident involving the spilling of a harmful substance that finds or may find its way into a water resource.

An **Environmental Incident** can be defined as pollution, erosion, cutting of protected and/or indigenous trees, hazardous substance spillages, wildlife interactions, public complaints and loss of biodiversity caused by Eskom Distribution's activities, as well as non-compliance to legislation such as Environmental Authorisations, Record of Decisions, permits and licences.

Incident Management – Aims and objectives

The aims and objectives of incident management are as follows:

- Reduce risk and prevent any recurrence of incidents
- Ensure incidents are managed effectively
- Ensure incidents are classified and recorded accurately
- Ensure prompt and appropriate investigation
- Promote the proactive use and value of near-miss occurrence reporting
- Improve the quality of safety and the work environment by learning from incidents, including near miss occurrences;
- Share incident information with all site personnel and other subcontractors.
- Report to relevant authorities as appropriate
- Promote the analysis of trends and review practices accordingly

Incident Reporting

After becoming aware of an incident, the following should be done as per Eskom's ELC procedure:

- All incidents must be reported via flash report within 24 hours or end of shift, regardless of the severity of the incident. Once an employee identifies that an incident has occurred, he/she must immediately notify his/her supervisor of such an incident, regardless of its severity, so that an appropriate and timely response can be made, an initial evaluation conducted, and an incident classification made.
- The responsible supervisor shall then send a flash report to the ECO and Project Coordinator within 24 hours of the incident. Thereafter, it will be determined by the ECO if reporting to the authorities is required.
- Immediate clean-up action is required;
- Eskom then has 14 days to formally investigate the incident internally before sending a report to the applicable authorities.
- All Section 30 Incidents should be reported as per that description.

Hazardous Waste - Incident Reporting

If a leakage or spillage of hazardous substances occurs as a result of Eskom's activities or other users, the local emergency services will be immediately notified of the incident. The location, nature of the load and the status of the site of the accident itself (i.e. whether further leakage is still taking place, whether the vehicle or the load is on fire, etc.) must be provided.

Written records of the corrective and remedial measures decided upon, and the progress achieved therewith over time, must be kept. Such progress reporting will be important for monitoring and auditing purposes. The written reports may be used for training purposes in an effort to prevent similar future occurrences.

Emergency Preparedness

Eskom's environmental emergency procedures ensure that there will be an appropriate response to unexpected or accidental actions or incidents that will cause environmental impacts, throughout the life cycle of the project. Such incidents may include, inter alia:

- Accidental discharges to water and land;
- Accidental exposure of employees to hazardous substances;
- Accidental veld fires;
- Accidental spillage of hazardous substances;
- Specific environmental and ecosystem effects from accidental releases or incidents

The Emergency Preparedness Plan

- Construction employees shall be adequately trained in terms of incidents and emergency situations.
- An emergency preparedness plan will include details of the organisation (manpower) and responsibilities, accountability and liability of personnel.
- The emergency preparedness plan shall include a list of key personnel.
- Details of emergency services (e.g. the fire department, spill clean-up services, etc.) shall be listed.
- Internal and external communication plans, including prescribed reporting procedures shall be listed.
- Actions to be taken in the event of different types of emergencies shall be included.
- Training plans, testing exercises, and schedules for effectiveness shall be included.
- Eskom will comply with the emergency preparedness, and incident and accident-reporting requirements, as required by the Occupational Health and Safety Act, 1993 (Act No 85 of 1993), the National Environmental Management Act, 1998 (Act No 107 of 1998), the National Water Act, 1008 (Act No 36 of 1998) and the National Veld and Forest Fire Act, 1998 (Act No 101 of 1998) as amended, and/or any other relevant legislation.
- *Hazardous material*
  - Information on hazardous materials, including the potential impact associated with each, and measure to be taken in the event of accidental release shall be listed.

Emergency Preparedness – Hazardous Chemical Spills

- Report the incident of any hazardous chemical spill as per the requirements of 32-95.
- Consult the Material Safety Data Sheet for all the precautionary measures to be taken in case of the exposure of both persons and environment to the hazardous chemical.
- If major spill, contact the Emergency Response Teams services for the containing the spill
- Stay clear of the spill area and stand opposite the wind direction from the spill.

Emergency Preparedness - Oil Spill Incidents:

- Oil spill incidents shall be reported as per the requirements of 32- 95.
- An oil spill kit shall be available to address emergency oil spills.
- Emergency containment measures shall be executed by the responsible person and his/her supervisor on site.
- Drip trays and/or loose absorbent fibres/ materials shall be used to contain any movement of spilled matter and/or absorb it.
- If the spill cannot be contained by the resources/ personnel on site on their own, the responsible unit supervisor must immediately contact an oil spill contractor (external service provider).
- Each unit shall keep the emergency numbers and contacts for all response teams that could assist with the emergency response relating to the oil spills.
- This list shall be posted on the notice boards and communicated to all for reference during emergencies.
- Rehabilitation and remediation measures shall be carried out as required. The emergency procurement process is detailed in 32-1034.
- For all major spills the following authorities must be notified:
  i. Department of Water Affairs (if a water resource has been affected);
  ii. Department of Environmental Affairs (national);
  iii. Department of Environmental Affairs and Development Planning (provincial); and
  iv. The local Municipality, as per the legislative requirements.

- Oil spill management is also detailed in the oil management instruction 240-79588150.

Emergency Preparedness –Wildlife incidents:

- All wildlife incidents must be reported to Environmental Management via flash report as per the requirements of 32-95.
- For any emergencies relating to wildlife incidents contact the Endangered Wild Life Trust. The Endangered Wildlife Trust (EWT) assists with wildlife investigations (together with Eskom staff), as required.

Spillages

- Streams, rivers, underground water and dams will be protected from direct or indirect spillage of pollutants such as refuse, garbage, cement, concrete, sewage, chemicals, fuels, oils, aggregate, wash water, organic materials and bituminous products.
- In the event of a spillage during the construction phase, the responsibility for spill treatment will be with Eskom and Eskom will be liable to arrange for competent assistance to clear the affected area.
- Eskom will compile and maintain environmental emergency procedure, to ensure that there will be an appropriate rapid response to unexpected or accidental environmental related incidents throughout the life cycle of the project.
- Incidents must be reported in line with OU Oil Spill Management Instruction and the Eskom's Incident Management Procedure. The incident must be reported within 24 hours via a flash report.
- The Environmental Control Officer (ECO) will assess the situation and act as required in all cases; the immediate response will be to contain the spill. The exact treatment of soil/water pollution will be determined by the ECO.
- Should water downstream of the spill be polluted, and fauna and flora show signs of deterioration or death, specialist hydrological or ecological advice must be sought for appropriate treatment and remedial procedures to be followed. The costs of containment and rehabilitation will be for Eskom's account, including the costs of specialist input.
- *Hazardous substance spillages*
  Hazardous substance spillages can be defined as any hazardous liquids or substances spilt that have the potential to pollute aquatic or terrestrial ecosystems or present a health hazard to other living organisms.
  - The Eskom construction team shall have an oil spill kit on site and where working with hazardous substances, also drip trays on trucks.
  - Vegetated areas cleared of hazardous waste will be re-vegetated.

During an emergency situation, the following will apply

- No person shall be allowed to approach a spill, fire, etc. unless he/she is equipped with the personal protective clothing and equipment.
- The risk involved shall be assessed before anyone approaches the scene of the incident with the emergency response plan as per Oil Spill Management Instruction and Environmental Emergency Preparedness Procedure.
- Any known or discovered spillage of toxic substances into a stream or river should be followed by immediate monitoring of the receiving streams and rivers.

Fires

- The adjacent landowners will be informed and/or involved in case of any fire that poses a threat to landowners.
- It must be ensured that the basic firefighting equipment is supplied to all living quarters, site offices, kitchen areas, workshop areas and stores.
- Welding gas cutting or cutting of metal will only be allowed inside the working/demarcated areas and with appropriate firefighting equipment at hand.

Monitoring
Monitoring will be undertaken as and when required. Any incidents that might have a detrimental impact on the environment will be investigated and environmental monitoring will be conducted. Complaints received will be checked through verifiable monitoring.

Inspections
The ECO is responsible for on-going visual inspections which should be conducted at least once per month and then when required or dictated by the programme. The ECO will spend time on site on the lookout for any unsafe acts and activities that transgress the requirements as specified in the EMP to define what action shall be taken to rectify the problem and prevent its reoccurrence.

The Site Environmental Representative will be responsible for daily inspections, induction, incident management etc.

Written instructions
Written reporting will be given following an audit. The written instructions will indicate the source or sources of the problems identified on site and propose solutions to those problems. The implementation to solutions will be assessed in a follow-up audit and further written instructions issued if required. Maximum allowable response time is 4 working days unless specified otherwise by the ECO.

Liaison
Eskom will comply with the requirements for public consultation as required by the National Environmental Management Act, 1009 (Act No 107 of 1998).
Throughout the project, ongoing liaison will be maintained with authorities and communities when needed to ensure that the following is done;
- Timeous advanced warning of any project activities that may have some impact on the surrounding communities i.e. blasting;
- Ongoing feedback on the environmental performance of the project;
- A complaints' register needs to be opened and maintained by the ECO. The register will contain the contact details of the person who made complaints and information regarding the complaint itself, including the date of submission.

Checking and Corrective Action
Non-compliance with the specifications of the EMP constitutes a Breach of Contract for which Eskom must be immediately notified accordingly. Eskom will be deemed not to have complied with the EMP if;
- There is evidence of contravention of the EMP specifications within the boundaries of the construction site, site extensions and access roads;
- There is contravention of the EMP specifications which relate to activities outside the boundaries of the construction sites;
- Environmental damage ensues due to negligence;
- Construction activities take place outside the defined boundaries of the site;
- Eskom fails to comply with corrective or other instruction.

Non-compliance will be dealt with in terms of the contract documentations signed by the various parties.

The approved Eskom penalty fee structure is as follows:

Non – compliance	**Penalty for non-compliance**
PRE-CONSTRUCTION	

Failure to demarcate Construction area/working areas off before construction starts.	R10 000-R15 000
Failure to maintain demarcated area(s) throughout the construction phase	
Failure to demarcate stock piling area of building materials	R1 000
Fencing off the construction site with mesh fencing of 1.8m, where necessary or other suitable material as agreed on by ECO and contract specifications	R5 000
Sitting of access road/s to be approved by ECO & demarcated with stakes before any construction starts (if applicable)	R5 000
Temporary route used for construction must be determined on site with ECO (if applicable)	R1 000 - R5 000
Sensitive features that may be harmed/removed/harvested must be clearly marked or demarcated and all construction team must be made aware of this.	R2 500 - R5 000
Failure to give environmental awareness to Construction team and all sub-contractors of all environmental aspects that could lead to imposition of environmental penalties/fines and keep the proof on file.	R5 000 - R10 000
All appointed contractors must attend Environmental Training contractor to assure that all subcontractors be informed and signed DOU	
Method statements must be provided on request by the ECO. No work may commence until the Method Statement is accepted by the ECO/Project Coordinator and Clerk of Works and contractor representative.	R2 500 - R5 000
CONSTRUCTION	
Failure to keep a copy of the EMP & Environmental Authorisation/Record of Decision (ROD) with all the conditions of approval and the relevant Method Statements must be kept on at site at all times.	R500 - R5 000
Construction team behaviour	R200 - R2 500
Construction team may not overnight on site.	
All noise and sound generated during all phases of the projects must comply with the relevant SANS codes and standards.	
Eating of meals only allowed in demarcated area	
No pets permitted on site	
Construction crew must stay within the demarcated construction area. (Applicable in sensitive sites)	R5 000 - R10 000
Failure to park all construction vehicle on the demarcated area and provision of any oil leaks must be made for example Drip trays	R1 000 - R5 000
Driving, parking and storing of machinery vehicles are only allowed inside demarcated areas and existing roads.	R500 - R5 000
Machinery may only be used on the road and may not disturb the vegetation on the sides of the road except if cleared by ECO. Machinery used must be carefully considered to limit environmental damage	
Failure to conduct bush clearing according to Eskom procedure for vegetation clearance and maintenance within the Overhead Powerline Servitude and on Eskom owned land (refer to EPC 32-247)	R5 000 - R10 000
Failure to undertake herbicide spraying under the supervision of registered Pest Control Officer.	R5 000 - R10 000
Excavations	
No topsoil may be removed or altered outside the demarcated area and/or which was not specified. Storage of topsoil outside dermarcated area to obtain permission from the landowner.	R5 000 - R10 000

Toilets	
Failure to put ablution facilities on site for the construction worker during the construction phase. These facilities must be used by the construction workers and be removed when the project is completed.	R2 500 - R5 000
Failure serviced the toilets regularly, (according to the manufacturer's instructions) and kept clean.	R1 000
Fire Prevention	
Failure to keep fire equipment on site at all times	R500 - R4 000
Failure to keep firefighting equipment to be in good working order and serviced.	R500 - R2 500
Keeping of open fire on site, this pose a risk of fire.	R1 000 - R5 000
Dust pollution control	
Failure to suppress dust through regular water spraying the emitted during the construction phase (Site specific/weather Dependent)	R500 - R5 000
Water run-off	
No contamination of water bodies, rivers, dams or wetlands is permitted	R5 000 - R15 000
Failure to take special care where the powerline will cross river, streams or wetlands.	R2 500 - R10 000
Waste Management	
Failure to provide dust bins/skip on site in order to handle all waste litter generated during construction phase of the project.	R500 - R5 000
General litter / building refuse must be cleaned up on a regular basis from the site	R300 - R5 000
Cement-contaminated water, paint, oil, cement slurries, etc. must be stored in watertight containers or as agreed with ECO	R500 - R5 000
Failure to report oil spillage to ECO via flash report within 24 hours of the spill occurring	R2 500 - R5 000
Any cement / concrete spillage to be cleaned up immediately.	R500 - R5 000
Ready-mix delivery trucks must not carry out the wash down of their trucks on or around the site unless arranged with ECO.	
Waste must be disposed of at an official waste deposit site on a regular basis. Keep the proof on file, waste manifest.	R5 000 - R10 000
The absence of or inadequate drip trays or binding facilities for on site oil leakage	R200 - R5 000
Failure to clean up oil/fuel leaks from on-site machinery	
Failure to keep oil spill remediation chemicals on site.	
Soil erosion	
Failure to prevent degradation and soil erosion on the construction site.	R500 - R5 000
Failure to notify property owners of the construction before commencement and obtain the permission in writing and keep on file.	R2 500 - R5 000
Rehabilitation	
Failure to remove rocks and stones/stock pile in area recommended by ECO	R500 - R5 000
Failure to remove all old concrete and alien materials from site	R500 - R5 000
Failure to clear all waste and building material on site before commissioning of the project	R500 - R5 000
General	
Failure to comply with the Environmental Conditions of the approved Environmental Authorisation	R5 000 - R20 000

DESIGN AND PRE-CONSTRUCTION PHASE

ENVIRONMENTAL SUPERVISION

Eskom Distribution, specifically the Environmental Control Officer (ECO), Clerk of Works (CoW) and Project Coordinator (PC) must inspect the construction site on a regular basis (during pre-construction, construction and post-construction periods) to confirm the current state of the site and to ensure that the mitigation and rehabilitation measures are applied as specified in the EMP. These officers might make reasonable amendments to the EMP in co-operation with the contractor.

ENVIRONMENTAL CONTROL OFFICER (ECO)

Proof of appointment of an independent ECO must be submitted to the City of Cape Town: Environmental & Heritage Branch: Northern Region prior to the commencement of construction.

The following also applies:

- The ECO is to conduct environmental induction with all staff handling, using or working on site.
- The ECO is to submit monthly environmental audit reports to the Regional Manager: Environmental & Heritage Management Branch: Northern Region.
- The ECO has a mandate to issue contractors with penalties for repeated non-compliance with the EMP.

ON-SITE COMMUNICATION PROCEDURE

On site start-up / kick-off meeting

- The mandatory on-site start-up meeting that is conducted preferably 14 days but not less than 5 working days prior to commencement of any site/camp establishment, earthworks and/or construction activities and will relate to additional discussed information that must be complied with during the entire construction phase.
- All site-specific issues and arrangements as discussed and agreed on at the site start-up meeting.
- Information pertaining to specific site construction agreements that was discussed at the kick-off meeting on site by all the relevant parties and agreed on and must be recorded and included as part of the EMP.
- Any changes made to the EMP as per the agreements between all parties on site must still fall within the conditions of the Environmental Authorisation.
- At the site start-up meeting, the following issues must be discussed:
  - The Construction EMP & other relevant site documents
  - Project to be discussed and all uncertainties are cleared
  - Method statement/s to be discussed
  - Access routes
  - Road and construction area to be demarcated
  - Materials stockpile and lay down areas to be demarcated
  - Method of stockpiling to be discussed
  - Firefighting procedures
  - Mandatory firefighting equipment & fire preventative measures
  - Mandatory site equipment and facilities
  - Solid waste facilities and removal intentions
  - Placement, type and service of toilets to be agreed on
  - Placement and type of rubbish bins and removal of rubbish to be agreed on

- Environmental Education and awareness training session to all contractors & onsite staff/labour.
- Location & establishment of concrete batching plant facility.

Monthly construction progress meetings

- Environmental matters pertaining to the construction of the project must be included as an agenda item on the monthly project construction progress meeting.
- The ECO must be invited to monthly construction progress meetings to discuss findings of site audits, mitigation measures and other issues arising pertaining to the implementation of the EMP conditions.

Minutes of meetings

- Environmental issues, action items, complaints, incidents and mitigation measures must be recorded in minutes of monthly construction project meetings.
- The ECO must be included in the circulation of minutes of meetings in order to stay informed of construction progress and construction issues as they relate to the receiving environment.

DESIGN

- The engineering drawings must adhere to any site-specific mitigation measures (if applicable) supplied by a geotechnical engineer for the project in order to accommodate the geotechnical and earth-scientific constraints in terms of founding and construction methods, construction materials, excavation, etc.
- The engineers must ensure that all new light fixtures (if applicable) associated with the project provide precisely directed illumination to reduce light spillage beyond the immediate surrounds of the development site (if applicable).
- A surface runoff management plan indicating the management of all surface runoff generated as a result of the development (during construction and operation) must be compiled. It should indicate how water velocities will be reduced before stormwater enters natural channels and how natural processes for water infiltration of the affected landscape will be accommodated. This study is to be commissioned by Eskom Engineering or done by an internal Engineer, and to be included in the design specification Terms of Reference.
- The design to incorporate storm water management during and post construction.

SITE REQUIREMENTS

Eskom must liaise timeously with security personnel at the Koeberg Nuclear Power Station (KNPS) to ensure that all security measures are being strictly followed; keeping in mind that the KNPS is a Key Point as determined by the National Key Points Act 102 of 1980 and security is exceptionally strict.

A copy of this EMP must be submitted to relevant people / organisations should they request it. They can assist Eskom in assuring that the contractor adheres to rules as stipulated and that mitigation measures are applied.

SOUTH AFRICA NATIONAL SPACE AGENCY (SANSA)

SANSA equipment

- The ideal position for the SANSA MT station will be determined *after details of the plans for the construction* of the KIPTS are available, The preferred site for the MT station which will be on the land between the KIPTS and future 400kV substation, in close proximity of the existing MT site.

- SANSA will remove the electronics and cables of their MT equipment before construction of KIPTS commences in order to minimize the risk of damage to the equipment. Eskom will notify SANSA at least a month before construction is likely to start.

SANSA / Eskom Agreement

It was agreed that Eskom will budget for R100 000 to cover the additional cost incurred by the KIPTS construction company for the following:

1. Dismantling of the existing MT equipment enclosures;
2. Building new enclosures of the same type as the existing ones at a suitable position within the land parcel near the existing site as agreed by Eskom and SANSA (SANSA will provide detailed plans so that the existing fibreglass lids will fit on the new enclosures);
3. Digging of four trenches of 50m long, 0.5m deep and 300m wide for laying the conduits for the MT station cables from the central enclosure to each of the four electric field electrodes.
4. Supplying all materials for the fixed infrastructure for the new MT stations, excluding the LEMI magnetometer, data logger and other removable components of the MT station.
5. Providing 250 V power from the KIPTS site to the central enclosure for powering the MT equipment. .

KOEBERG NATURE RESERVE and NO GO AREAS

The project is located within the Koeberg Nature Reserve, which is proclaimed in terms of National Environmental Management: Protected Areas Act (NEM:PAA – Act 57 of 2003). A Protected Area Management Plan (PAMP) was compiled in terms of NEM:PAA (termed the Management Plan for the Koeberg Nature Reserve), with which each development proposal within the nature reserve must be compliant. Within the PAMP, the proposed KIPTS development is located within the Buffer Zone of the nuclear power station, which is within the access restricted area. The Buffer Zone is a category within *Developed Zone - Facilities* for which the objectives are the operation, maintenance and development of facilities to support the operation of the nuclear power station.

The existing KIPTS facility is located outside of the access restricted area and is included within the *Developed Zone - Facilities* as an isolated node. Following the decommissioning of the facility, the PAMP should be amended so as to change the existing node of *Developed Zone – Facilities* and change this to *Conservation Zone*. This would be supported by CapeNature as it will result in an increase in the conserved area.

All areas outside of the Buffer Zone (development zone) must be treated as no-go areas, it must be clearly demarcated and strictly enforced by Eskom and the construction contractors.

FAUNA (General mitigation)

The following general recommendations are made to minimise the impacts of construction on the immediate environment and remaining fauna:

- Close site supervision must be maintained during construction.
- Workers must be limited to areas under construction and access to the undeveloped areas must be strictly regulated (“no-go” areas during construction activities).
- Temporary stockpile areas including litter, dumped material and rubble must be removed on completion of construction. Alien invasive plant should be removed to prevent further invasion.
- Firearms or any other hunting weapons must be prohibited on site.
- Contract employees must be educated about the value of wild animals and the importance of their conservation.

- Severe contractual fines must be imposed and immediate dismissal on any contract employee who is found attempting to snare or otherwise harm remaining faunal species.
- No animals should be intentionally killed or destroyed and poaching and hunting should not be permitted on the site.

FLORA (General mitigation)

The following general recommendations are made to minimise the impacts of construction on the flora of the area:

- Provision of adequate toilet facilities must be implemented to prevent the possible contamination of ground (borehole) water in the area.
- All temporary stockpile areas including litter and dumped material and rubble must be removed on completion of construction. All alien invasive plant should be removed from the site to prevent further invasion.
- Collection of firewood and traditional medicinal plants is strictly prohibited.
- In areas where degradation has taken place as a result of the construction, a suitably qualified ecologist or rehabilitation specialist should be appointed for the commencement of rehabilitation activities. The specialist should identify areas requiring rehabilitation as well as appropriate seed mixes which are required.
- No open fires shall be allowed on site under any circumstance. The Contractor shall have fire-fighting equipment available on all vehicles working on site, especially during the summer months.
- Litter should not be stockpiled. No open trenches should be allowed (adequate barricading is required).
- Toilet facilities tend to be blown over and should be secured.

FAUNA & FLORA (site specific mitigation)

- The outside boundary of the road corridor borders areas which were identified as High botanical *and* faunal sensitive areas and Species of Conservation Concern may occur here. Should the access road therefore be constructed in close proximity of these areas, a walk-down by an ecologist needs to be undertaken in order to ensure the protection of these plants.
- No new access road should be authorised for the decommissioning of the existing KIPTS site; the existing road should be cleared of sand and used for decommissioning work and vehicles must stay on the road.
- The existing KIPTS foundations should be left *in situ*, as removing them will cause unnecessary ecological disturbance, and they will soon be covered by sand.
- Basic alien invasive vegetation management should be undertaken in the disturbed areas around the new development footprints for at least the first two years after construction
- The trenches that are required for the underground powerline and pipelines will be a temporary entrapment hazard for many small animals (frogs, reptiles and certain insects) as well as large game. These thus need to be covered to reduce the hazard and completed and closed up as fast as possible to minimise this hazard.
- An ECO must be appointed to oversee construction and decommissioning, and should be responsible (either by doing it him/her self or appointing a qualified person) for ensuring that all open excavations are checked twice daily for any animals that fall into these excavations, and should then remove them to a safe place for release.

FRESHWATER RESOURCES

- Construction activities should as far as possible be limited to within the already disturbed areas.

- The disturbed areas should be rehabilitated after construction is completed by revegetating these areas with suitable indigenous plants if necessary.
- Monitoring and control of invasive alien plants should be undertaken on an ongoing basis, especially within the disturbed areas.
- Disturbed areas that have been rehabilitated post construction should be monitored and managed to ensure that they do not become invaded with alien plants.
- Operation maintenance activities associated with the new KIPTS should only take place via the designated access or maintenance routes.
- The existing access route should be followed as far as possible during the decommissioning of the exiting KIPTS and the extent of any new disturbed areas should be limited.
- The disturbed areas should be rehabilitated after construction is completed by revegetating these areas with suitable indigenous plants if necessary.
- Monitoring and control of invasive alien plants should be undertaken on an ongoing basis, especially within the disturbed areas for a period of at least 2 years. An experienced botanist or horticulturalist should assist with this rehabilitation process.

SAND DUNES

- When vegetation is cleared from an area for development, it must be re-vegetated with appropriate locally indigenous vegetation as soon as the development is completed, so that the dune sands do not become re-mobilized.
- During the decommissioning phase, sand should be cleared off the access road by shifting it northward, the direction in which the dominant wind would move it. Alternately sand could be moved seaward, which would represent a delay in its natural wind-blown movement, but would have no consequences within the natural high variability in the wind regime.
- Sand should not be moved onto vegetation or pose a risk to the wetlands.
- It is preferable to work during the calm season, i.e. autumn, so that wind-blown sand will be less of a nuisance.

COMPLIANCE WITH SPECIFICALLY IDENTIFIED LEGAL REQUIREMENTS

The National Water Act (Act No 36 of 1998)

A water use authorisation may need to be obtained from the Department of Water Affairs & Sanitation for approval of the water use aspects of the proposed activities (this is applicable to the decommissioning of the existing KIPTS) Considering that the significance of the potential impact of the proposed activities on the freshwater features in the area is likely to be very low, it is likely that the activities could be authorised in terms of the General Authorisations for this potential water use (change to the bed, banks or characteristics of a watercourse or impeding / diverting the flow in a watercourse). Proof of submission thereof to DWS will be provided in the Final Basic Assessment Report.

All the conditions that will be stipulated in the General Authorisation must be included in this EMP.

Storage of waste

The storage of hazardous and/or general waste (including builder's rubble) of more than 80m^3 and 100m^3 respectively, excluding the storage of waste in lagoons or the temporary storage of such waste, would require the applicant to comply with Government Notice ("GN") No. 926 of 29 November 2013: National Norms and Standards for the Storage of Waste. Should the storage of waste trigger the mentioned thresholds, then the applicant must also register the waste storage on the Department's Integrated Pollutant and Waste Information System (https://ipwis.pgwc.gov.za/ipwis3/public) with regular updates thereafter.

Soils

Any soil not considered suitable for the layer works (foundation layers) of the road may be classified as spoil. The disposal of spoil may trigger the waste management activity identified in Category A 3(9) of GN No. 921 of 29 November 2013, being "The disposal of inert waste to land in excess of 25 tons but not exceeding 25 000 tons, excluding the disposal of such waste for the purpose of levelling and building which has been authorised by or under other legislation".

Please note that application for a waste licence must be made should above-mentioned waste management activity become applicable.

Dust

It is envisaged that dust and exhaust emissions will be generated during the decommissioning of the existing KIPTS and the construction of the new KIPTS, which could cause nuisance conditions. Dust generated during must comply with the National Dust Control Regulations (GN No. R. 827 of 1 November 2013), promulgated in terms of the National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004). These regulations prohibit a person from conducting any activity in such a way to give rise to dust in such quantities and concentrations that the dust, or dust fall, may have a detrimental effect on the environment and human health.

Noise

All noise levels of machinery and work activities must be monitored and controlled on the site. Noise generated during the decommissioning of the existing and construction of the new KIPTS and associated infrastructure must comply with the Western Cape Noise Control Regulations (Provincial Notice 200/2013) of 20 June 2013.

CONSTRUCTION SITE

- Onsite accommodation for security personnel and construction staff is not allowed.
- The location of the construction site must be negotiated with the relevant landowner and specifications of the landowner must be adhered to.
- The construction site office and storage areas for material and equipment must be fenced in to prevent impacts and human interference to spread further than the site.
- Storage facilities for construction equipment must be provided for.
- Encourage the construction contractor to employ local people as far as is reasonably practical and encourage the contractor to transport them daily to and from the site. This would reduce solid and liquid waste production and water demand at the site camp.
- Contractors should develop a comprehensive site camp management plan. This should apply even in the case of the limited accommodation camps as discussed above.
- Plan site campsites an appropriate distance from any facility where it can cause a nuisance and could cause a safety hazard.
- Minimise on-site storage of petroleum products.
- Ensure proper maintenance procedures in place for vehicles and equipment.
- Servicing of vehicles to be in designated areas with appropriate spill management procedures in place.
- Ensure measures to contain spills readily available on site (spill kits).
- Sufficient ablution and proper cooking facilities must be provided at the site camp.
- The site camp is to have a demarcated eating area
- Toilet facilities tend to be blown over and should be secured.
- Deposit solid domestic waste in containers and dispose at municipal waste disposal sites regularly.
- Dispose of liquid waste (grey water) with sewerage.
- Install appropriate facilities at the campsite. Preferably utilise municipal systems (conservancy tanks with periodic removal) or chemical toilets.

- Ensure compliance with stringent daily clean up requirements of site camp inert waste (waste concrete, reinforcing rods, waste bags, wire, timber etc) and dispose at municipal waste disposal sites.

FIRE MANAGEMENT

The following are applicable to both the construction and operational phases:

- No fires may be made for the burning of vegetation and waste, neither as source of heat or cooking.
- No open fires are to be made on site – cooking facilities must be provided, particularly for security staff.
- Branches and other debris resulting from pruning processes should not be left in areas where it will pose a risk to infrastructure.
- Fires shall not be made for the purpose of chasing or disturbing any fauna.
- The adjacent landowners must be informed and/or involved in case of any fire that may pose a threat to their properties.
- It must be ensured that the basic firefighting equipment is supplied to all living quarters, site offices, kitchen areas, workshop areas and stores and be kept available during construction phase.
- Welding gas cutting or cutting of metal will only be allowed inside the working/demarcated areas and with appropriate firefighting equipment at hand.
- The Cape Peninsula Fire Protection Association (CPFPA) should be notified of any fires (tel: 021 689-7438).

APPOINTMENT OF CONTRACTORS

- The EA & EMP will be made binding on all Contractors (and form part of the project specification) operating on the site and will be included in contract documents of all appointed contractors. Non-compliance with, or any deviation from, the conditions set out in this document constitutes a failure in compliance.
- The appointment of contractors with proven track records of sound environmental performance should be given priority.
- The contractor must ensure that, as far as possible, the majority of unskilled labour is obtained from the local residents in the macro area.
- The contractor must ensure that he is well aware of the implications of and must ensure compliance with the following legal requirements, guidelines and policies:
  - All relevant Eskom standards, specifications and procedures to manage the significant aspects with regards to oil management, bush clearing, entrance of private property, etc.
  - Requirements in terms of removing cutting and/or trimming of protected trees in terms the Forest Act (Act 122 of 1984).
  - All Sections and Regulations of the National Water Act, 1998(Act 36 of 1998) must be complied with; specifically specifications as described in Section 19 on Pollution and Waste.
  - Environmental Best Practice Guidelines and Specifications, compiled by the Department of Water Affairs.
  - Legislation with regard to graves that is included in the National Heritage Resources Act (No 25 of 1999). It should be noted that the act also distinguishes between various categories of graves and burial grounds. Other legislation with regard to graves includes those which apply when graves are exhumed and relocated, namely the Ordinance on Exhumations (No 12 of 1980) and the Human Tissues Act (No 65 of 1983 as amended).
- The contractor must be aware that all waste material generated during and after construction should be disposed of at a permitted landfill site and an agreement letter between the municipality and the contractor regarding the disposal of such waste material should be obtained.

CONSTRUCTION PHASE

GROUND AND SURFACE WATER

- In all cases, abstraction of water from watercourses for construction purposes will not be allowed. Arrangements must be made prior to construction with the landowners or municipal water must be carted in.
- Under no circumstances must surface or groundwater be polluted.
- Adequate oil containment precautions must be taken.
- If a spill from a construction vehicle occurs it must be reported to the ECO with immediate effect. A bio-remediation contractor must be appointed to rehabilitate large oil spills. Small oil spills must be cleaned immediately with an oil spill kit. Spills must be immediately stopped and a drip tray be used to catch any leaks until the risk can be eliminated and mitigation/ rehabilitation measures applied
- Minimise on-site storage of petroleum products.
- Ensure proper maintenance procedures are in place for vehicles and equipment.
- Servicing of vehicles to be done in designated areas with appropriate spill management procedures in place.
- Ensure that measures to contain spills are readily available on site (spill kits).
- All hazardous substance spills must be reported, recorded and investigated.
- All stormwater runoff must be managed efficiently so as to avoid stormwater damage and erosion to adjacent properties.
- During and after construction, stormwater control measures should be implemented especially around stockpiled soil, excavated areas, trenches etc. to avoid the export of soil into any watercourse.
- Stormwater should not be discharged into the working areas and it should be ensured that stormwater leaving the footprint of the proposed development areas is not contaminated by any substance, whether that substance is solid, liquid, vapour or any combination thereof.
- Stockpiling of construction material and soils should be such that pollution of water resources is prevented and that the materials will be retained in a storm event.
- Drinking water and water for ablution facilities must be provided to all construction workers on the construction site.

WASTE MANAGEMENT

General Waste

- The disposal of waste generated during the construction and operation of the proposed KIPTS and the decommissioning of the existing KIPTS should be considered as a last resort after having considered the waste management hierarchy (avoidance, reuse and/or recycling of waste).
- Where possible, reuse alternatives for construction waste should be considered and implemented.
- No temporary stockpiles areas are allowed for litter.
- Expected constructed waste (unused steel, conductor cables, cement or concrete) and general waste around the construction site (plastic, tins and paper) may degrade the environment if not disposed in the correct manner.
- Littering or illegal dumping of any waste material is prohibited.
- No waste disposal holes may be made on site.
- Under no circumstances should waste be burnt on site.
- Waste separation should be encouraged for recycling purposes.

- Provision must be made for the collection of all general waste materials. Rubbish bags and weather- and scavenger proof bins must be provided at various points within the construction corridor and must be emptied on a regular basis.
- Deposit solid domestic waste in containers and dispose at registered municipal waste disposal sites regularly and not only on completion of construction.
- For all waste that is disposed of, Eskom shall obtain waste manifests and disposal certificates, which shall be recorded and reported to the ECO on a monthly basis.
- Liquid waste (grey water) must be disposed with sewerage.

Construction Waste

- Ensure compliance with stringent daily clean up requirements of site camp inert waste (waste concrete, reinforcing rods, waste bags, wire, timber etc) and dispose at municipal waste disposal sites.
- Construction waste must be collected and sold for recycling purposes as far as possible.

Sewage

- Portable ablution facilities must be placed within the construction servitude and must be serviced by registered companies only and on a regular basis.
- A minimum of one toilet is to be provided on site for every 15 contract personnel in the case of chemical toilets and 1 for every 30 staff in the case of flush toilets.
- Portable ablution facilities shall be secured to avoid being blown over.
- Portable toilets should be emptied in to an authorised disposal facility and an agreement with the concerned municipality should be submitted to this Department.
- No effluent to be dumped in the veld or any watercourse.
- The use of the open veld for ablution is prohibited.

Hazardous Waste

- Oil contaminated waste (soil, cloths used to clean small spills, spill kits, content of drip trays, etc.) must be disposed of at a facility that is registered as a hazardous landfill facility.
- All hazardous substances at the site must be adequately stored and accurately identified, recorded and labelled. All these hazardous substances should be disposed of at a H:H registered waste disposal facility.
- Hydrocarbon (oil, diesel, petrol) waste as well as hydrocarbon containing material must be regarded as hazardous waste and separated from general waste.
- Persons who remove hazardous waste must be appropriately qualified and authorised.

VEGETATION CLEARANCE

- Vegetation clearance is often one of the very first activities of construction. The Project Coordinator shall inform the ECO before the vegetation clearance contract is issued. Vegetation clearance is considered commencement of construction. Eskom needs to notify the DEA of its intention to commence with construction before vegetation clearance can commence.
- Vegetation clearing during construction must be restricted to the footprint of the development site.
- Unnecessary impacts (such as driving off road) on surrounding natural vegetation must be avoided.
- Vegetation shall be mulched by the Eskom conservation department before clearance.

PROTECTION OF FAUNA AND FLORA

- No animals or birds may be fed, disturbed, hunted or trapped.
- No plant material may be removed if not part of identified vegetation clearance.

- Adhere to on-site speed limits at all times.
- No animals may be harmed or removed from site. If an animal is encountered on site that does not vacate the area by itself, or may be harmful to site staff, the conservation staff at Eskom is to be contacted to remove said animal.

NO-GO AREA

All areas outside of the Koeberg Nature Reserve's Buffer Zone (development zone) must be treated as no-go areas, it must be clearly demarcated and strictly enforced by Eskom and the construction contractors.

SOIL EROSION

- To cause the loss of soil by erosion is an offence under the Soil Conservation Act, Act No 76 of 1969.) Access roads and site surfaces must be monitored for deterioration and possible erosion. Pro-active measures must be implemented to curb erosion and to rehabilitate eroded areas. All areas susceptible to erosion could be installed with temporary and permanent diversion channels and berms to prevent concentration of surface water and scouring of slopes and banks, thereby countering soil erosion.
- All cleared areas must be ripped and rehabilitated after construction. The top 200mm layer of topsoil must be removed and stockpiled in heaps not higher than 2m and replaced on the construction areas once the activities have been completed. The affected areas should be replanted with a grass mixture indigenous to the area.
- All vehicle movement must be along existing roads or tracks as far as possible.
- All stormwater runoff must be managed efficiently so as to avoid stormwater damage and erosion.
- Should any new temporary access roads be required, the following could be applied in areas which are prone to erosion:
  - Where a cutting is made, subsoil drains should be installed wherever a perched water table occurs within 900m of the formation in all cuttings and below fills in the alluvial zones.
  - It is further critical to manage surface water. Drains should be provided along the top and bottom of all deep cuttings. This is to minimise the flow of surface water and erosion to the exposed cut faces and erosion along the toe of the cuttings.
  - Steep sections of the service road must be supplied of sufficient drainage areas to reduce flow velocity of run-off water.
  - Any eroded sections must be rehabilitated and part of the management plan must include regular inspections of the water run-off areas.
- If any erosion occurs, rehabilitation must be done immediately.

COMMUNITY ISSUES (SAFETY, SECURITY, NOISE, DUST, ETC.)

- Construction workers must be extremely careful not to damage any property.
- Should any damage occur it should be reported to the ECO and repaired and to a state prior to the damage to the written satisfaction of the landowner and ECO.
- Removal of agricultural products is prohibited.
- No firewood may be collected.
- No open fires are to be made on private property.
- In order to prevent and/or minimise crime, it is required that all construction workers be supplied with controlled serviced accommodation or be supplied with daily transport to and from the site.
- No wandering on adjacent properties is allowed.
- All adjacent landowners have to be informed of the blasting programme (if applicable) prior to any blasting taking place. Contractors must liaise personally with adjacent landowners. All communication in this regard must be documented. Blasting may only be undertaken by specialists in the field and should be

limited to small localised areas. All relevant legislation must be adhered to.

- All construction workers will be allowed only for specified day light hours. Transport should be made available by the contractor to remove labourers from the site after working hours. The following working hours are suggested: 7h00 to 17h00 Mondays to Saturdays and no work to take place on public holidays and Sundays.
- Supervision of labourers must at all times take place.
- Sweeping of construction sites, clearing of building rubble and debris and watering of construction sites (storage areas, roads, etc.) must take place on a regular basis. Only non-potable water which is available at the Koeberg Nuclear Power Station may be used for dust management.
- All excavated areas must be clearly marked and barrier tape must be placed around them to prevent humans and animals from falling into them.
- Best practice measures must be employed to minimise any noise or dust impacts that may occur during the construction and decommissioning phases of the proposed development.

CULTURAL / HERITAGE RESOURCES & PALAEONTOLOGY

No specific site of heritage value was identified on the land to be developed. However, if any evidence of archaeological sites or remains (e.g. remnants of stone-made structures, indigenous ceramics, bones, stone artefacts, ostrich eggshell fragments, charcoal and ash concentrations), fossils or other categories of heritage resources are found during the proposed development, construction work is to stop immediately and SAHRA APM Unit (Natasha Higgitt/John Gribble 021 462 5402) must be alerted. If unmarked human burials are uncovered, the SAHRA Burial Grounds and Graves (BGG) Unit (Mimi Seetelo 012 320 8490), must be alerted immediately. A professional archaeologist or palaeontologist, depending on the nature of the finds, must be contracted as soon as possible to inspect the findings. If the newly discovered heritage resources prove to be of archaeological or palaeontological significance, a Phase 2 rescue operation may be required;

POST-CONSTRUCTION & OPERATIONAL PHASE

SOIL EROSION

- Specifications for topsoil storage and replacement to ensure sufficient soil coverage as soon as possible after construction activities must be implemented.
- All embankments (if any) must be adequately compacted and planted with grass to stop any excessive erosion and scouring of the landscape.
- After construction, all temporary access roads should be rehabilitated.
- The site must be rehabilitated and replanted with suitable, indigenous grass to prevent erosion where necessary.

CONSTRUCTION SITE CLEARANCE

- After construction all building material, signs of excess concrete, equipment, houses, ablution facilities, building rubble, refuse and litter must be removed and cleaned up from the construction site as well as from the store room by the contractor.
- Items that can be used again should be recycled. Unusable waste steel and aluminium to be managed according to Eskom procedures.

- Once construction is completed, the contractor has to obtain written consent from the relevant landowner that the construction site, construction areas, access routes, etc. are sufficiently and adequately rehabilitated to the landowners' satisfaction.

COMMUNITY ISSUES

- All complaints received with regards to poor conduct of Eskom personnel, malfunction of or damage to Eskom structures will be investigated by Eskom in cooperation with all the relevant stakeholders.
- Eskom to manage complaints as per GTX line and or direct Eskom personnel on site or contractor site representative. All complaints will be managed according to Eskom existing measures such as 32 – 95.
- No wandering on adjacent properties is allowed.

VEGETATION MAINTENANCE

- The management of alien vegetation is governed by Regulation GNR.1048 of 25 May 1984 (as amended) issued in terms of the Conservation of Agricultural Resources Act, Act 43 of 1983. In terms of these regulations, Eskom must "control" i.e. to combat Category 1, 2 and 3 plants to the extent necessary to prevent or to contain the occurrence, establishment, growth, multiplication, propagation, regeneration and spreading such plants within servitude areas or land owned by Eskom.

FIRE RISK MANAGEMENT

- Debris shall not be burnt under any circumstances.
- Fires shall not be made for the purpose of chasing or disturbing any fauna.

MONITORING PROGRAMMES

- Any incidents resulting from Eskom structures and operation that might have a detrimental impact on the environment will be investigated and measured and, if applicable, will be identified in close cooperation with the affected parties and/or stakeholders and be implemented and monitored accordingly.
- Monitoring and control of invasive alien plants should be undertaken on an ongoing basis, especially within the disturbed areas for a period of at least the first two years after construction. An experienced botanist or horticulturalist should assist with this rehabilitation process.
- Eskom must at all times follow this EMP for maintenance and operational practices to ensure consistent, effective and safe performance of the infrastructure.

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