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Date:
23 April 2014

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Dear Ms. Toinette van der Merwe

SUBMISSION OF THE ENVIRONMENTAL MANAGEMENT PLAN (EMP) FOR THE DREDGING OF THE KOEBERG COOLING WATER INTAKE BASIN AND THE DISPOSAL OF THE DREDGED MATERIAL SOUTH OF THE OUTFALL BASIN IN THE SURF ZONE, KOEBERG NUCLEAR POWER STATION, DUYNEFONTEIN

The Koeberg Cooling Water Intake Basin (KCWIB) was constructed in 1981 (prior to 2010 EIA Regulations being in place) inside Koeberg's cadastral boundary, to provide Koeberg Nuclear Power Station (KNPS) with sediment free cooling water. Sedimentation occurs in the outer and inner KCWIB and when it gets to a certain level the basin needs to be dredged in order to prevent the basin becoming too shallow to provide KNPS with sediment free cooling water. In order to maintain the KCWIB the basin needs to be dredged at an average annual rate of 132 000 m³/yr. Therefore the dredging is essential to maintain the KCWIB and the KNPS cooling water supply. The dredged material from these dredging activities is then deposited south of the KCWIB through a temporary pipeline on the seashore. This discharge is essentially acting as a by-pass system as the uncontaminated marine sand is being moved from inside the KCWIB to where it naturally would have settled out before the KCWIB was built. This activity has been occurring for over 31 years on an annual basis and therefore is essential to maintain the sediment dynamics in the area. This deposition of the dredged material therefore also considered to be a maintenance activity.

Eskom currently have two leases under the Seashore Act (1935) enabling us to use the area for the maintenance of the intake and outlet water system as well as the pumping of seawater to and from Koeberg. The leases also stipulate where the dredging and deposition of the dredged sand is allowed to occur on the site. The dumping of the sand on the seashore south of the KCWIB is currently regulated under a dumping permit under the Dumping at Sea Control Act (Act 73 of 1980) and the National Environmental Management: Integrated Coastal Management Act (NEM: ICMA), Act 24 of 2008 .

The current dumping permit allows 350 000 m³ of uncontaminated material to be deposited in the surf zone south of the intake basin. However, a Section 70 'dumping at sea' permit in terms of the NEM:ICMA is not applicable to this activity as the dredged material is being deposited in the surf zone.

In terms of Section 69 of NEM:ICMA, any discharge of effluent that originates from a source on land into coastal waters requires a Coastal Waters Discharge Permit (CWDP). Although the

dredged material is discharged via a temporary pipeline into the surf zone Koeberg does not believe a Coastal Waters Discharge Permit is required as the source of the effluent is marine.

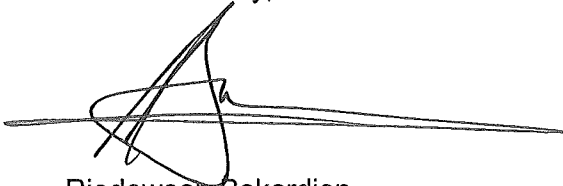
The dredging and depositional activities occurring at the KCWIB are within the ambit of maintenance activities and works and therefore the Environmental Impact Assessment (EIA) Amendment Regulations 2010 will not be triggered in terms of Listing Notice 1 (activities no. 16 and 18).

However, the listed activity no. 18 of Listing Notice 1 states that maintenance works must be undertaken in accordance with a management plan agreed to by the relevant environmental authority.

Herewith please find the attached dredging EMP for your agreement. The EMP describes the maintenance works occurring at the KCWIB which consist of dredging the KCWIB and deposition of the dredged material south of the KCWIB in the surf zone.

As advised by the Department of Environmental Affairs (DEA) the draft EMP was made available to various commenting authorities which includes the DEA: Integrated Environmental Authorisations, DEA: Oceans and Coasts, the provincial Department of Environmental Affairs and Development Planning (DEADP): Land Management, the provincial DEADP: Coastal Management, the City of Cape Town: Environmental Resource Management (CoCT: ERM) and the public for comment.

Yours sincerely,

A handwritten signature in black ink, appearing to be 'Riedewaan Bakardien', written over a horizontal line.

Riedewaan Bakardien
KOEBERG POWER STATION MANAGER

KOEBERG OPERATING UNIT

TITLE: Final Environmental Management Plan for the Maintenance Dredging of the 'Cooling Water Intake Basin' and Disposal of the Dredge Spoil South of the Intake Basin in the Surf Zone, at Koeberg Nuclear Power Station

REFERENCE NR: EM 1.1/01/2013

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DATE:

2014 - 04 - 07

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1. INTERPRETATION AND TERMINOLOGY

1.1 Abbreviations

The following abbreviations are used in this Scope:

Abbreviation	Description
CCT	City of Cape Town
CWDP	Coastal Water Discharge Permit
DEA	Department Environmental Affairs (National)
DEADP	Department of Environmental Affairs and Development Planning (Provincial - Western Cape)
EA	Environmental Authorisation
ECO	Environmental Control Officer
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
FFD	Fitness for Duty
GNR	Government Notice Regulations
I&APs	Interested and Affected Parties
KNPS	Koeberg Nuclear Power Station
KCWIB	Koeberg Cooling Water Intake Basin
KCWOB	Koeberg Cooling Water Outfall Basin
m ³	Meters cubed
m ³ /a	Meters cubed per annum
NEMA	National Environmental Management Act, Act No. 107 of 1998, as amended
NEM:ICMA	National Environmental Management Act: Integrated Coastal Management Act, Act No. 24 of 2008
PM	Project Manager
GIS	Geographic Information Systems
PSIF	Public Safety Information Forum
PRDW	Prestedge Retief Dresner Wijnberg (Pty) Ltd
PAT	Plant Access Training
SAMSA	South African Maritime Safety Authority
SAP	System Application Products
SHEQP	Safety Health, Environmental and Quality (SHEQ) Policy

1.2 Terminology

Term	Description
Accretion	Accretion is the process of coastal sediment returning to the visible portion of a beach.
Aspect	Element of an organisation's activities, products or services that can interact with the environment.
Coastal Zone	The area comprising coastal public property, the coastal protection zone, coastal access land and coastal protected areas, the seashore, coastal waters and the Exclusive Economic Zone and includes any aspect of the environment on, in, under and above such area.
Contractor	"Any company, vendor, consultant or individual with which the Koeberg Operating Unit has contracted for work or service to be performed inside the Owner-controlled area of the Koeberg Operating Unit, either by contract or purchase order." ¹
Department Head	The department head is the manager for the department (within Eskom) under which the work is being performed.
<u>Dredging</u>	<u>Dredging is an excavation activity or operation that is usually carried out at least partly underwater, in shallow seas or freshwater areas with the purpose of gathering up bottom sediments and disposing of them at a different location.</u>
Environment	means the surroundings within which humans exist and that are made up of - (i) the land, water and atmosphere of the earth; (ii) micro-organisms, plant and animal life; (iii) any part or combination of (i) and (ii) and the interrelationships among and between them; and (iv) the physical, chemical, aesthetic and cultural properties and conditions of the foregoing that influence human health and wellbeing
Environmental Authorisation	An authorisation granted in respect of coastal activities by a competent authority in terms of Chapter 5 of the National Environmental Management Act, Act No. 107 of 1998 (NEMA), as amended;
Endemicity	Describes the "Level of Endemism".
Endemism	Endemism is the ecological state of being unique to a defined geographic location, such as an island, nation or other defined zone, or habitat type; organisms that are indigenous to a place are not endemic to it if they are also found elsewhere.
Environmental Management Plan	An environmental management tool used to ensure that undue or reasonably avoidable adverse impacts of the construction, operation and decommissioning of a project are prevented; and that the positive benefits of the projects are enhanced ² .
Impact	A description of the potential effect or consequence of an aspect of the development on a specified component of the biophysical, social or economic environment within a defined time and space.
Method Statement	A document, prepared by the Dredging Contractor/Operator, setting out specific details about the site, materials, labour, method and timeframes for the Provision of the Works.
Others	"Are people or organisations who are not the Employer, the Consultant, the Adjudicator or any employee, Sub-Consultant or supplier to the Consultant".
Operator	The internal employees within Eskom that may undertake the Scope of Work.
Project Manager	A person appointed by the Employer to act on behalf of Eskom in the capacity of Project Manager as defined in the NEC3 contract documentation.
Procurement Manager	A person appointed by the Employer to act on behalf of Eskom in the capacity of Procurement Manager as defined in the Management and Control of Supplemental Workers at KNPS Standard (KSA -119) ¹ .

Koeberg Dredging Environmental Management Plan

Term	Description
Sea	Means all marine waters, including— (a) the high seas; (b) all marine waters under the jurisdiction of any state; and (c) the bed, subsoil and substrata beneath those waters, but does not include estuaries;
Surf Zone	The zone of wave action extending from the water line (which varies with wave conditions, tide, surge, set-up etc.) out to the most seaward point of the breaker zone (breaking waves).
Stakeholders	A subgroup of the public whose interests may be positive or negatively affected by a proposal or activity and its consequences. The term includes the proponent, authorities and all interested and affected parties.
Safety Risk Manager	A person appointed by the Employer to act on behalf of Eskom in the capacity of Safety Risk Manager as defined in the Management and Control of Supplemental Workers at KNPS Standard (KSA -119) ¹ .
Training Manager	A person appointed by the Employer to act on behalf of Eskom in the capacity of Training Manager as defined in the Management and Control of Supplemental Workers at KNPS Standard (KSA -119) ¹ .

2. INTRODUCTION

This Environmental Management Plan (EMP) has been developed to fulfil the requirements of Listing Notice 1 (Activity No.18) of the Environmental Impact Assessment (EIA) Amendment Regulations, 2010. The format of the EMP is in line with section 33 of the National Environmental Management Act, Act No. 107 of 1998, as amended (NEMA).

The EMP also outlines the procedures that control the manner in which the applicant (Eskom) and the appointed Dredging Contractor/Operator shall undertake the various activities associated with maintenance dredging of the Koeberg Cooling Water Intake Basin (KCWIB). The objective is to ensure the implementation of the Koeberg Nuclear Power Station's (KNPS) Safety Health, Environmental and Quality (SHEQ) Policy (Appendix B) during these activities.

The EMP has been developed to identify and address the requirements for the management and mitigation of environmental impacts of the maintenance dredging and associated activities through all the phases (i.e. mobilisation, operation and demobilisation) of the project.

All changes to the EMP that address the issues raised during the Koeberg Public Safety Information Forum (PSIF) and associated public participation process are underlined.

3. PURPOSE AND OBJECTIVES OF THE EMP

The purpose of this EMP is to provide an environmental management tool that ensures that undue or reasonably avoidable adverse impacts of the mobilisation, operation and demobilisation of the maintenance dredging activities at the Koeberg Cooling Water Intake Basin (KCWIB) are mitigated or prevented; and that the positive benefits of these activities are enhanced.

The EMP provides the mobilisation, operational and demobilisation requirements for the KCWIB's maintenance dredging operations and associated depositional activities, for the significant environmental aspects of the project. The aim and objectives of this EMP are:

- To ensure compliance with section 24N(2) of the NEMA and the EIA Amendment Regulations, 2010;
- To specify the environmental management and implementation requirements throughout the life cycle of the project (i.e. mobilisation, operational and demobilisation phases) in order to enhance benefits and minimise or mitigate adverse environmental impacts;
- To provide the context within which the management requirements are to be implemented by providing the background to the project and the affected environment;
- To provide the mechanisms to address changes in the project implementation, emergencies or unexpected events, as well as the associated approval processes;
- To provide feedback to the DEA for continual improvement in environmental performance;
- To verify environmental performance through gathering and recording information on impacts as and when they occur;
- To provide a system for addressing non-compliance which ensures accountability, reporting and resolution of any non-compliance; and

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- To encourage and attain the highest environmental performance and response from all employees and Contractors.

4. PROJECT OVERVIEW

4.1 Project Location

KNPS is located 30 km north of Cape Town, near Melkbosstrand on the West Coast of South Africa. The KCWIB and the Koeberg Cooling Water Outfall Basin (KCWOB) are situated inside Koeberg's cadastral boundary as shown in the Figure 1 below.

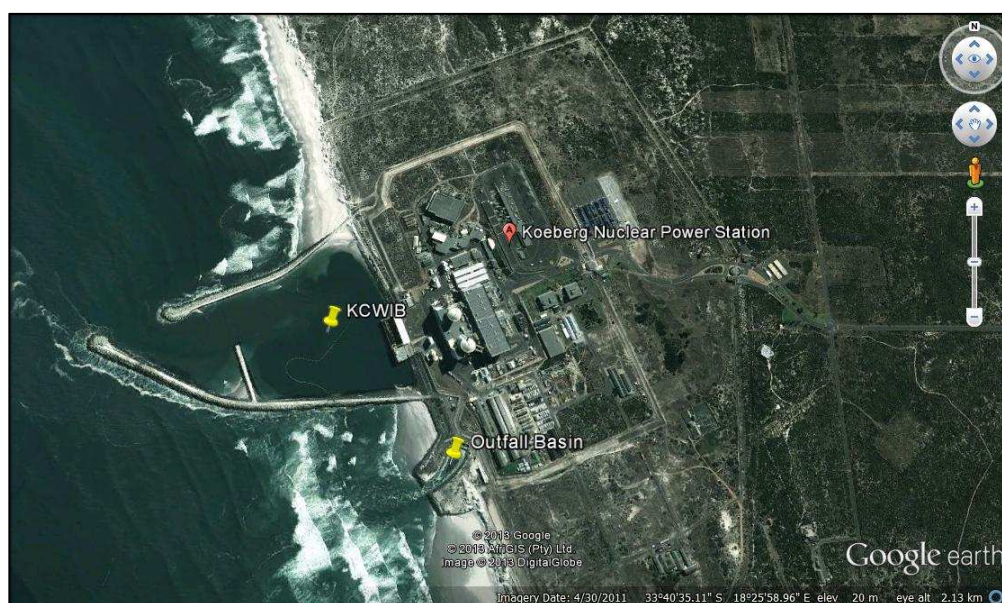


Figure 1: The location of the Koeberg Cooling Water Intake Basin

4.2 Project Background

The KCWIB was constructed in 1977 to provide KNPS with sediment free cooling water. Sedimentation occurs in the outer and inner KCWIB which decreases the depth of the basin over time and increases the chance of sediment occurring in the cooling water intake into KNPS. In order to provide sediment free cooling water to the KNPS the depth of the KCWIB (Figure 2) needs to be maintained.

Since 1981, the intake basin has been dredged with an electrically powered cutter-suction dredger at an average annual rate of $132\,000\text{ m}^3/\text{a}^4$ (this is approximately equivalent to 1 320 loads from a dump truck). Currently, the dredger is stationed permanently inside the KCWIB and is operated by T&T Marine. At the end of the Dredging Contractor's contract (December 2013), a new dredger may be brought into the intake basin. From January 2014 onwards, should a new Dredging Contractor's contract not be in place for the maintenance dredging operations, Eskom may purchase their own dredger to conduct the maintenance dredging operations.

The dredge spoil is deposited south of the KCWOB (33°40'51.79"S; 18°25'52.39"E, Figure 2) through a pipeline into the surf zone. The deposition of the dredge spoil to the south of the basin functions as a sand by-pass system,

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since the longshore movement of sand along this beach area is predominantly in a southerly direction⁴. The deposition of dredge spoil is considered to be an existing and continuous maintenance activity⁴.



Figure 2: The location of the dredge spoil discharge pipe

4.3 Affected Environment

4.3.1. General Description

The KNPS is situated in an area near the southern limit of the relatively uniform Namaqua marine biogeographic region. This area is dominated by the cold Benguela current system, in which the upwelling of cool nutrient rich waters results in high biological productivity⁵. However, this coast is characterised by low species richness and low endemism. There are no identified areas of special conservation for marine mammals, invertebrates or fish within the immediate vicinity of the KNPS⁵. However, the Koeberg Private Nature Reserve north of the KNPS has been recognised as an area of conservation importance for seabirds and shorebirds⁶. Penguins and seabird colonies are situated on Robben Island about 15 km to the south of KNPS. There are no other notably rare or endangered species that are known to occur in the immediate area⁷.

4.3.2. Intertidal zone

Sandy shores dominate the intertidal zone in the vicinity of the area where the dredge spoil is being deposited. To the north of KNPS, is a 10 km long wave exposed sandy beach, consisting of relatively coarse grained quartz sand and weathered shell. To the south of the KNPS is a 6 km long sandy beach, consisting of finer sediments and a wider intertidal zone. Invertebrate species found on these beaches are typical of the west coast. Macro-faunal communities

are dominated by polychaete worms low on the sea shore while they become dominated by crustaceans in the high shore⁵. The commercially important White Sand Mussel, *Donax serra*, also occurs in the low shore⁷.

Very little natural rocky shore exists in the area under consideration and the KCWIB breakwaters represent the major hard substratum available in the intertidal zone. On the sea side, the breakwaters are protected by concrete dolosse and on the inside, they are built up with rocks of assorted sizes which form a gentle sloping intertidal zone⁷.

Robinson (2012a) found that on the sea side of the breakwaters the intertidal zone was very exposed and biological communities consisted mainly of the alien mussels, *Mytilus galloprovincialis*, and various barnacle species. In addition, it was found that the communities within the shelter of the basin were far more diverse and included mussels, limpets and numerous algae. All species recorded are common on the west coast⁷.

Numerous marine birds have been recorded breeding in the intertidal zone around the KNPS. These include the Swift Tern, *Sterna bergii bergii*; the Hartlaub's Gull, *Larus hartlaubii*, the 'Endangered' Bank Cormorant, *Phalacrocorax neglectus*, the 'Near-threatened' African Black Oystercatcher, *Haematopus moquini*; Crowned Cormorant, *P. coronatus*, and the Cape Cormorant, *P. capensis*. The Hartlaub's Gull, Bank Cormorant and the African Black Oystercatcher are endemic to the region⁷.

The private nature reserve that surrounds KNPS has been identified as an area of conservation importance because it meets the criteria for the Ramsar Convention and is considered to be an Important Bird Area (BirdLife Africa)⁴. In particular, the protection offered by the Koeberg Private Nature Reserve has enabled an increase in density of breeding pairs of the Near-threatened African Black Oystercatcher⁷.

4.3.3. The Benthic Environment

Both rocky and sandy bottoms occur in the nearshore environment in the immediate area of KNPS⁸. Communities inhabiting rocky substrata are dominated by the Mussel *Choromytilus meridionalis*; by the Sea Urchin, *Parechinus angulosa* and by gastropods of the genus *Burnupena* - This community structure is typical of the South African west coast. Both West Coast Rock Lobster, *Jasus lalandii*, and Abalone, *Haliotis midae*, occur on nearby shallow reefs. Sandy bottom communities support no species of note and are characterised by large numbers of polychaete worms, burrowing anemones and small crustaceans⁷.

4.3.4. The Open Water Environment

The most common fish occurring in the KCWIB of KNPS are the Southern Harder, *Liza richardsoni*, and the Catshark, *Poromerma africanum*⁸. While a number of marine mammals are known to frequent the west coast, only the South African Fur Seal, *Arctocephalus pusillus pusillus*, has been recorded spending long periods in the immediate area of KNPS⁷.

The high densities of phytoplankton and zooplankton substantially contribute to the well-known productivity of the west coast. Algae blooms are however temporary and localised, depending to a large degree on prevailing weather

conditions. Although a large number of species have been identified in the vicinity of KNPS, taxonomy of these groups is difficult and a number of species remain undescribed⁷.

5. LEGAL FRAMEWORK

5.1 Environmental Legislative Background

Eskom currently has two leases with the Western Cape Nature Conservation Board, under the Seashore Act, Act No. 21 of 1935 (1/04-020-90216 and 1/04-020-90335). These leases allow Eskom to use the area for the maintenance of the intake and outlet water system, as well as for the pumping of seawater to and from Koeberg. The first lease (1/04-020-90216) provides that the leased site shall be used “exclusively for the use and maintenance of an intake and outlet water system (as defined by points A and B, Appendix A), “for the pumping of seawater” to and from Koeberg and for no other purpose without the prior permission of the lessor.

The second lease (1/04-020-90335) provides that the leased site shall be used exclusively for the dumping and maintenance dredging of marine sediments (as defined by points C and D, Appendix A) and for no other purpose without the prior written consent of the lessor. Both leases prohibit activities on the leased sites that cause a nuisance, either by an obnoxious smell, release of any effluent, other harmful or unpleasant substances, or anything potentially harmful to public health. The lease also stipulates the exact locations where the maintenance dredging and deposition of the dredge spoil is allowed to occur.

The dumping of the dredge spoil in the surf zone south of the KCWIB is currently regulated under a dumping permit (Permit 05/2012, Reference V1/1/2/32/5/1). This dumping permit is issued annually under the Dumping at Sea Control Act, Act No. 73 of 1980 and sections 70 and 71 of the National Environmental Management: Integrated Coastal Management Act, Act No 24 of 2008 (Annexure C). The current dumping permit allows 350 000 m³ (this is approximately equivalent to 35 000 loads from a dump truck) of marine material to be deposited in the surf zone south of the intake basin⁴.

The maintenance dredging and associated depositional activities occurring in the KCWIB are within the ambit of maintenance activities and works. Therefore the EIA Amendment Regulations, 2010, Listed Activities 16 and 18 of Listing Notice 1 (GNR No. R544, 2010) are not triggered. However, the Listed Activity No. 18 (Listing Notice 1) states that maintenance works must be undertaken in accordance with an EMP, which must be agreed to by the DEA. No Environmental Authorisation (EA) is required for the dredging of the intake basin and disposal of the dredge spoil in terms the EIA Amendment Regulations, 2010.

6. PLANNING

6.1 Potential Environmental Issues

The potential environmental issues associated with the maintenance dredging and associated disposal activities have been assessed by PRDW⁴

(oceanographers) and T.B. Robinson⁹ (marine specialist). These specialists also assessed potential mitigation measures.

The key aspects and impacts requiring detailed consideration include:

- Water quality and sediment characteristics;
- Stress or death to fauna close to the maintenance dredging or disposal activities;
- Stress or death or change in community structure of benthos due to the maintenance dredging or depositional activities;
- Scaring of the seabed and changes in seabed depth (bathymetry);
- Accidental hydrocarbon spills, e.g. from a transformer on board the vessel or grounding of the vessel;
- Accidental spills of dredge spoil during transit;
- Accidental spills of miscellaneous substances stored on board the dredger;
- Changes in sediment dynamics, sediment characteristics, erosion and accretion of coastline;
- Waste management;
- Injury or death of fauna due to vessel interactions; and
- Social issues, e.g. smell of deposited material and change in water quality.

7. OVERVIEW OF THE EMP CONTENTS

7.1 EMP Commitments

Eskom's environmental commitments (Appendix B) provide the framework for the EMP. The EMP and associated mitigation measures will be implemented by Eskom and the Dredging Contractor/Operator.

The tabular listings in this EMP provide:

- A comprehensive listing of the mitigation measures that Eskom will ensure are implemented by the Dredging Contractor/Operator, according to project phase and activity, to ensure that the objectives of the EMP are fully met;
- Designation of responsibilities to ensure full implementation of that action;
- Source of the mitigation measure or standard to be adhered to;
- The timing for implementation/monitoring of the action; and
- The requirements for the close-out report.

The EMP also serves as a set of specifications that will define the Dredging Contractors'/Operators' environmental responsibilities. Timing and immediate responsibility for implementing each commitment will be agreed between Eskom and its Contractors'/Operators'. Eskom remains ultimately responsible for the implementation of the EMP.

7.2 Management of Change

The EMP commitments will be further addressed as the maintenance dredging planning proceeds and comprehensive working methods are developed. Revisions to this EMP are envisaged as a result of the following:

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- The introduction of new methodologies that may change the environmental impact or require amendments to existing mitigation measures; and
- Changing environmental requirements or standards; or as a result of incidents or audit results.

Although modifications to some of these measures are envisaged, there will be one overriding principle: that none of these measures will be omitted or changed without further assessment and reporting of the potential resultant impacts.

7.3 *Subsidiary Plans*

The following subsidiary plans form part of the EMP:

- KEP-056 – Activation of the Nuclear Emergency Plan for the Operating Shift¹²;
- KEP-073 – Oil Spill at Sea Response Plan¹³;
- KEP-084 – Chemical Spill Response Plan¹¹;
- KGG-001 – Severe Weather Guide¹⁴;
- KGG-004 – TSC Guideline to Marine Threat¹⁵;
- KWB-OP-CRR 006 – Control Room Response to Emergencies¹⁶; and
- KAA-842: External Communication Procedure for Koeberg¹⁷.

7.4 *Monitoring*

This EMP makes provision for regular monitoring to achieve the following objectives:

- Ensure that the requirements of the EMP are implemented;
- Assess the effectiveness of the mitigation actions with respect to the predicted impacts;
- Provide on-going feedback to authorities and stakeholders and annual permit renewal; and
- Gather environmental performance data for close-out reporting.

To date, no dedicated monitoring programme has been instituted to track the ecological impacts of the maintenance dredging at KNPS. As such, any new monitoring programme would not be able to compare findings to a pre-dredged state.

The only long-term monitoring programme at KNPS that can be used to measure the impacts of the maintenance dredging and associated activities on the environment is the long term bi-annual sandy beach monitoring programme.

This programme currently monitors the impact of the heated seawater on Ou Skip's sandy beach community. Ou Skip is located 800 m to the south of the dredge spoil disposal site. The long-term monitoring programme's data can therefore be used in conjunction with the dredging records to monitor the impacts of the deposition of the dredge spoil on Ou Skip's sandy beach community.

It is important to note that such monitoring would not be able to detect any changes from a pre-impact state, but would allow for long-term monitoring that may elucidate correlations between the deposition of the dredge material and changes in Ou Skip's sandy shore communities⁷.

In order to adapt this long-term monitoring programme to include the impacts from the maintenance dredging operations, the Dredging Contractor/Operator must provide the Project Manager with following information:

1. The depth of the basin before the commencement and after the completion of the maintenance dredging operations;
2. The thickness (volume) of sediment to be dredged;
3. Date and time of the commencement and completion of maintenance dredging operations;
4. The volume of sediment that is dredged per event;
5. The location of the maintenance dredging operations; and
6. The discharge rates of the dredge spoil to shore.

The Project Manager must ensure that this data is given to a marine biologist. The marine biologist must assess the impacts of the maintenance dredging and the deposition of the dredge spoil on Ou Skip's sandy shore communities⁷.

Should a new maintenance dredging regime be instituted at KNPS, a monitoring programme should be setup to assess impacts of such a change. The design of the monitoring programme should take into account recommendations by coastal engineers regarding the area/s most likely to be impacted⁷.

8. IMPLEMENTATION OF THE EMP FOR THE MAINTENANCE ACTIVITIES AT KCWIB

The maintenance dredging work inside the KCWIB is being performed under the Maintenance Department at KNPS.

8.1 Roles and Responsibilities

The roles and responsibilities of Eskom's staff; the Dredging Contractor/Operator and the Environmental Control Officer (ECO) are detailed below.

8.1.1. Department Head (Maintenance)

The primary responsibility of the Department Head is to assign a competent Project Manager to oversee the contracted Scope of Work¹.

In addition, the Department Head shall¹:

- Ensure that the Project Manager (PM) has received the necessary training and is competent to perform his / her duties;
- Ensure that the PM understands and perform their responsibilities as described in the *Management and Control of Supplemental Workers at KNPS Standard (KSA -119)*¹ and related procedures;
- Ensure the PM is familiar with the objectives of the contract/ operations;
- Ensure the PM has sufficient time to perform contract/ operational management duties; and
- Conduct *ad hoc* reviews of the PM file and the PM duties. Transfer PM responsibilities to a qualified PM if current PM is unable to perform PM functions for reasons including temporary assignments that prevents the PM from performing his / her duties effectively, extended training and / or inadequately performing the PM function.

8.1.2. Project Manager

The primary responsibility of the PM is to ensure the Dredging Contractor/Operator complies with the environmental specifications in this document¹.

In addition, the PM shall¹:

- Manage the Dredging Contractor's contract *and liaise* with Dredging Contractor or manage the internal Dredging Operators;
- Ensure that the EMP is included in the Dredging Contractor's contract or internal operational procedures;
- Ensure that a copy of the EMP is given to Dredging Contractor/Operator;
- Assume overall responsibility for the effective implementation of the EMP;
- Assume overall responsibility for the revision of the EMP;
- Assume overall responsibility for the management of the Interested and Affected Parties (I&APs) database;
- Assume overall responsibility the effective implementation of auditing and monitoring procedures;
- Record all communications with I&APs, points raised, and how these points have been addressed;
- Ensure the terms of reference specify that the dredger must be electrically powered;
- In conjunction with the Dredging Contractor/Operator; undertake regular inspections of the temporary pipeline and the dredging vessel in order to ensure compliance with the specifications in this EMP. Ensure that inspections take place at least once a month and ensure that copies of the monitoring checklist are filed;
- Keep a register of all incidents (spills, injuries, complaints, legal transgressions, etc.) and other documentation related to the EMP;
- Report any problems (or complaints) which cannot first be resolved in co-operation with the Dredging Contractor/Operator to Eskom's Environmental Advisor; (or complaints);
- Ensure all safety (conventional and nuclear) is considered when work is performed;
- Observe and verify contractors/operators have been declared competent for the work intended to be performed;
- Ensure that contractors/operators have completed line-specific safety induction training and understand the risks associated with the work to be performed;
- Implement recommendations of possible audits;
- Ensure that all staff working on the project receive training in accordance with the requirements of the EMP;
- Ensure stakeholder communication and public participation are implemented; and
- Ensure that the maintenance dredging and deposition data is given to a marine biologist.

8.1.3. Training Manager

The primary responsibility of the Training Manager is to provide training required by Eskom to the Dredging Contractor/Operator and coordinating Project Managers¹.

In addition, the *Training Manager* shall¹:

- Verify qualifications and perform technical assessments of the Dredging Contractor/Operator; and
- Issue competency certificates upon successful completion of Fitness for Duty (FFD) requirements.

8.1.4. Dredging Contractor/Operator

In the past, Eskom has appointed a new Dredging Contractor when there was sufficient sedimentation in the basin to warrant the cost of mobilisation of maintenance dredging operations. However, in the future the Contractor may be replaced by an internal operator. The Dredging Contractor/Operator will be responsible for ensuring that the requirements of the EMP are implemented. The Dredging Contractor/Operator will report to the PM and the ECO. The Dredging Contractor/Operator shall:

- Ensure that the environmental specifications of this EMP (including any revisions, additions and amendments) are effectively implemented. This includes the on-site mitigation measures;
- Discuss implementation of and compliance with this document with relevant staff at routine meeting;
- Preserve the natural environment by limiting any destructive actions on site;
- Record the timing, location, volumes and types of marine sediment dredged in a record book;
- Record the timing, location and volumes of marine sediments deposited in a record book;
- Record the discharge rate of the dredge spoil to shore;
- Ensure hydrographic surveys are conducted before the commencement and after the completion of the maintenance dredging operations;
- Monitor the environmental performance and conformance with specifications contained in this EMP during site inspections;
- Ensure the vessel is in a seaworthy condition; and
- Ensure that everyone onboard the dredger adheres to the HSE requirements.

8.1.5. Environmental Control Officer (ECO)

Eskom's ECO will be responsible for ensuring that the requirements of the EMP and the associated documents are complied with by the Dredging Contractor/Operator. The ECO will report to the PM. The ECO shall:

- Inform key, on-site staff of their roles and responsibilities in terms of the EMP, through initial environmental awareness training;
- Monitor, review and verify compliance with the EMP by the Dredging Contractor/Operator ;

- Identify areas of non-compliance and recommend measures to rectify them in consultation with the PM and the Dredging Contractor/Operator as required;
- Ensure that the Dredging Contractor/Operator remedies environmental problems timeously to the satisfaction of the PM and authorities (when necessary);
- Request Method Statements from the Dredging Contractor/Operator prior to the start of the maintenance dredging activities and approve these (as appropriate) without causing undue delay to the operations;
- Ensure that environmental training programmes and other awareness initiatives are in place and ensure induction material includes project appropriate environmental issues;
- Respond to changes in project implementation or unanticipated site activities which are not addressed in the EMP, and which could potentially have environmental impacts, and advise the Dredging Contractor/Operator and the PM as required;
- Ensure that all environmental monitoring programmes (sampling, measuring, recording etc.) are carried out according to protocols and schedules;
- Ensure site documentation related to environmental management is kept on the vessel, as well as on site (e.g. permits, EMP, Environmental Method Statements, Environmental License, reports, audits, monitoring results, receipts for waste removal etc.); and
- Compile annual checklist reports for review by the PM.

9. COMMUNICATION

9.1 Internal Communication

The PM is responsible for formal communication with all relevant personnel in Eskom to ensure that the EMP's Requirements are met and to ensure that the Eskom's required training has been provided to the Dredging Contractor/Operator. The PM is also responsible for formal communication with the Eskom's Safety Risk Manager, Environmental Assurance Manager and Procurement Manager, in order to ensure that Eskom's procedures are implemented by the Dredging Contractor/Operator.

The PM reports to the Head of Department, to report back progress on the completion of the Scope of Work by the Dredging Contractor/Operator.

9.2 Dredging Contractor/Operator and Eskom

The Employer will instruct the Dredging Contractor/Operator to perform a task through a System Application Products (SAP) task order. The Dredging Contractor/Operator may not perform any work without a SAP task order.

The Dredging Contractor/Operator must maintain an up-to-date record of receipt and submission of all communication related to "Providing the Works".

The Dredging Contractor/Operator must report any of the following information to the PM and the control room (021 550 4222):

- Any spills of dredge spoil, miscellaneous substances or oil within the KCWIB;

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- Medical Emergency; and
- In the event that the Dredging Contractor/Operator notices debris (i.e. ropes, large plastic sheets, floats etc.) or jellyfish moving towards pump houses (KGG-004)¹⁵.

9.3 Dredging Contractor/Operator and Others

All work completed by the Dredging Contractor/Operator is subject to inspections, at any given time, by various Employer Groups, i.e. Safety Risk Management, Engineering and Quality Assurance/ Quality Control.

In providing the work, the Dredging Contractor/Operator:

- Conducts when necessary informal day to day communication with Others for the purpose of "Providing the Works".
- Shares the site with Others and maintains good relations at all times with, and co-operates with, the Employer and Others and their employees who may be working in the same area or on the same system.
- Makes available the assignees and key people timeously for Providing the Works.
- Notifies the Employer of any matter that the Contractor/Operator disagrees with or cannot resolve to his satisfaction.
- Co-operates at any time with Others (e.g. an independent person) appointed by the Employer to review work done by the Contractor/Operator in Providing the Works.
- Co-operates and provides information as required by the Employer for issues affecting the works, but outside the Scope of Work.

9.4 Communication with Relevant Stakeholders

The DEA has requested that communication occurs with I&APs during the EMP development, implementation, and revision phases. Proof of all methods of notification will be submitted to the DEA by Eskom.

The main benefit of involving stakeholders in the EMP is to include local knowledge and to ensure that the EMP addresses aspects of the project that could be a source of social risk. Stakeholders need to understand that their safety, health and environment are not being compromised.

The External Communication Procedure for Koeberg (KAA-842)¹⁷ will be implemented to ensure stakeholders are properly informed.

9.5 Public Participation Phase

The Public Participation Phase of the draft EMP consisted of two stages of public review.

The first stage included a presentation of the draft EMP at the Koeberg Public Safety Information Forum (PSIF) meeting held on the 28 November 2013. The draft EMP was also made available for 40 days for public review and comment on the Eskom Website, from the 19 November 2013 to the 14 January 2014.

The agenda for the PSIF was advertised in the following local newspapers:

- *Die TygerBurger* on the 20 November 2013;
- *TableTalk* on the 20 and 27 November 2013; and

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- *Weskusnuus* and *Impact* 24/7 on the 27 November 2013.

The second stage of the review commenced on the 11 February 2014 with the advertisement of the availability of the updated draft EMP, in the *TygerBurger* newspaper. The EMP was made available for public review and comment over a period of 21 days on the Eskom website and in the following local libraries:

- *Koeberg Public Library* - Merchant Walk, Duynefontein, Melkbosstrand; and
- *Table View Public Library* – Birkenhead Road, Table View.

The updated EMP was also made available to the following commenting authorities for review.

- DEA: Oceans and Coasts;
- Department of Environmental Affairs and Development Planning (DEADP); and
- City of Cape Town (CoCT).

The final EMP will be submitted to the DEA for review and approval.

Appendix E contains additional information on the public participation methodology, a copy of the advertisement and a summary of issues raised (Issues Trail) during this process. The project team has responded to the issues raised in this Appendix.

10. EMP IMPLEMENTATION AND REVISION PHASES

Key procedures for the implementation and revision of the EMP are outlined below, with relevant details provided in subsequent sections:

- Maintaining an up-to-date I&AP database;
- Maintaining open communication with relevant stakeholders informing them of proposed changes to the EMP, addressing any issues of concerns that may arise, maintain records of communications, and where relevant, address their needs;
- Keeping a record of all communication with I&APs, points raised, and how these points have been addressed;
- Participate actively in appropriate forums to share information and co-operate with other stakeholders and resource managers on matters applicable to the marine environment; and
- Submit revised and amended EMP Reports to the DEA as and when required.

10.1 Implementation of Monitoring and Auditing

Key procedures for the implementation and monitoring of the requirements of the EMP are outlined below, with relevant details provided in subsequent sections:

- The PM shall undertake an initial site visit in conjunction with the Dredging Contractor/Operator and the ECO to advise on issues of environmental concern and agree on communication and reporting procedures;

- The ECO shall facilitate an initial environmental awareness training workshop with key on-site staff regarding the importance of the EMP, prior to commencement of the maintenance dredging activities;
- Prior to the commencement of certain activities, the ECO may instruct the Dredging Contractor/Operator to submit detailed Method Statements for approval;
- The ECO will prepare monthly compliance checklist reports during the maintenance dredging operations, detailing any environmental issues, non-compliance and actions to be implemented, to be submitted to the PM;
- The ECO will inspect the site bi-weekly (during the maintenance dredging operations) to monitor and review the environmental performance of the maintenance dredging activities against the commitments of the EMP;
- Where non-compliance with the EMP or Method Statements, or where environmental damage is noted by the ECO and PM, the ECO/PM will inform the Dredging Contractor/Operator who will be expected to implement the required corrective action (Section 10.5) as detailed in the formal notification, and within the timeframes specified by the ECO; and
- The ECO will undertake a final audit of the site on completion of activities and submit to DEA at their request.

10.2 Environmental Awareness Training

Environmental awareness training courses should be provided to all personnel regarding environmental and safety operations of the dredger. It is the responsibility of the PM and ECO to ensure that all personnel are aware of the objectives and specific provisions of the EMP.

The PM will provide the first training session for key personnel on the dredger, after which the Dredging Contractor/Operator will undertake training for all new employees and Sub-Contractors that come onto the vessel, as deemed necessary.

Courses will be held during normal working hours, at a suitable venue. All attendees must remain for the duration of the course and on completion sign an attendance register that clearly indicates participants' names. A copy of the register shall be handed to the ECO.

10.3 Plant Access Training

The PM must ensure that all relevant personnel are provided with Plant Access Training (PAT)¹¹. It is the responsibility of the PM to ensure that all personnel are aware of the KNPS Emergency Plan requirements.

10.4 Method Statements

Each Method Statement will address environmental management aspects applicable to the activity and will provide detailed descriptions of:

- Mobilisation procedures;
- Operational procedures;
- Materials and equipment to be used;
- Transport of equipment;
- Storage of materials;

- The containment of liquid material;
- Project Schedule and location of activities; and
- Any other information deemed necessary by the PM/ECO.

The Method Statements must be submitted by the Dredging Contractor/Operator to the ECO/PM no less than 14 days prior to the start date of an activity. The ECO/PM will approve and/or reject the Method Statement within 7 days. An activity may not commence until the ECO/PM has approved the method statement. Once approved, the Dredging Contractor/Operator will abide by these Method Statements.

10.5 Non-Compliance and Corrective Action

If environmental compliance monitoring by the ECO indicates non-conformance, by the Dredging Contractor/Operator, with the EMP or approved Method Statements, the ECO/PM will notify the Dredging Contractor/Operator of the non-conformance in writing. The notification will include:

- The nature of the non-conformance/environmental damage;
- The actions or outcomes required to correct the situation; and
- The date by which each corrective or preventive action must be completed.

Upon receipt of the notification, the Dredging Contractor/Operator will be required to submit a Corrective Action Plan to the ECO and PM which will describe how the required actions will be implemented. The Corrective Action Plan must be approved prior to implementation. After it has been approved, the corrective action must be carried out within the specified time limits. The ECO/PM must follow the corrective action process (KAA-688¹⁸) and confirm the success or failure of the corrective action.

10.6 Environmental Records and Reports

Environmental records and reports required during the Operation Phase of the project will include:

- A annual environmental compliance checklist report prepared by the ECO;
- A record of the timing and volumes of marine sediments dredged and deposited in a record book by the Dredging Contractor/Operator;
- A Site Closure Audit prepared by the ECO; and
- Photographic records compiled by the ECO.

10.6.1. Environmental Compliance Report

The ECO will undertake regular site inspections to check on the implementation of the EMP by the Dredging Contractor/Operator and complete an Environmental Compliance/Progress Checklist Report after the inspection, detailing any environmental issues, non-compliance and actions to be implemented. Environmental Compliance Reports will be submitted to the PM and a full record will be kept for submission to the Local Authority and/or the DEA on request.

10.6.2. Site Closure Audit

The ECO will undertake a final site closure audit on completion of the Operational Phase on an annual basis. The purpose of this is to confirm compliance with all site closure requirements identified by the ECO, and that the site has been left in an environmentally acceptable condition. The Site Closure Audit Report will be submitted to the PM for record purposes and will be kept for submission to the Local Authority and/or the DEA on request.

10.6.3. Photographic Records

The ECO and Dredging Contractor/Operator are to take photographs of any areas of concern for record purposes (e.g. before and after photos of non-compliance and corrective action).

11. COST ESTIMATES AND FINANCIAL RESOURCES FOR EMP IMPLEMENTATION

Internal resources will be used to fulfill the ECO role and therefore no special budget is required for this service.

12. ENVIRONMENTAL MANAGEMENT MEASURES

This section of the EMP details the environmental management measures to be implemented during the Mobilisation, Operational and Demobilisation Phases of the project presented in Section 12.2 to Section 12.4 respectively. These management measures include the mitigation measures as identified by the specialists (Section 6.1).

The tables below have been structured to indicate the aspect (or impact) to be addressed, the environmental management measures to be implemented, as well as the responsible parties for implementing the mitigation measures.

Koeberg Dredging Environmental Management Plan

12.1 Standards of Compliance

Standards of Compliance	
<ul style="list-style-type: none"> • National Environmental Management Act, Act 107 of 1998 (as amended in 2010). • National Environmental Management Act: Integrated Coastal Management Act, Act 24 of 2008. • National Environmental Management Act: Air Quality Act, Act 29 of 2004. • National Environmental Management Act: Biodiversity Act, Act 10 of 2004. • National Environmental Management Waste Act: Waste Act, Act 59 of 2008. • National Nuclear Energy Regulator Act, Act 47 of 1999. • Dumping at Sea Control Act, Act 73 of 1980. • Maritime Zones Act, Act 15 of 1994. • Marine Living Resources Act, Act 18 of 1998. • National Ports Act, Act 12 of 2005. • Seashore Act, Act No. 21 of 1935 (1/04-020-90216; 1/04-020-90335). • Boat Launching Licence for KNPS (E16/2/4/AM7), Melkbosstrand. • Dredging Permit (Permit 05/2012, Reference V1/1/2/32/5/1) – <u>If and when required</u> 	<ul style="list-style-type: none"> • Sea Birds and Seals Protection Act, Act 46 of 1973. • Marine Pollution (Control and Civil Liability) Act, Act 6 of 1981 as amended by the South African Maritime Safety Authority (SAMSA) Act, Act 5 of 1998. • Marine Pollution (Prevention of Pollution from Ships) Act, Act 2 of 1986. • Marine Pollution (Intervention) Act, Act 65 of 1987. • Ship Registration Act, Act 58 of 1998. • SAMSA approved vessel safety certification • SAMSA approved Standard for the safe management and operation of vessels and for pollution prevention. • SAMSA approved waste management plan. • SAMSA approved emergency response plan. • SAMSA approved safe bunkering plan. • SAMSA approved ballast water management plan. • Safety, Health, Environmental & Quality Policy – Eskom KNPS. • Safety, Health, Environmental & Quality Policy – Dredging Contractor/Operator

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12.2 *Environmental Management Measures for the Mobilisation of Operations or Stand-By Operations Inside KCWIB*

In order to ensure compliance with Eskom's Environmental Policy as well as environmental legislation requirements, the following actions are applicable to the mobilisation and stand-by phases of the maintenance dredging activities:

Koeberg Dredging Environmental Management Plan

Activity	Aspect	Impact	Management Requirements	Duration	Responsibility
Planned Events					
Launching of the support vessels	Safety of personal	Loss of life or injury	<ul style="list-style-type: none"> Ensure that the support vessels are launched via the slipway at KNPS, according to KNPS Boat Launching license (E16/2/4/AM7); and Ensure all personal are wearing life jackets. 	The duration of the maintenance dredging activities.	Dredging Contractor/Operator
Launching of the dredger	Safety of personal	Loss of life or injury	<ul style="list-style-type: none"> Ensure the quayside is clear of debris; Ensure the crane is well maintained; Ensure the crane has a certification that ensures fit for use and is within safe working limits; Compliance with the Employers "Requirements for Activities in the Cooling Water Intake Basin" (KSA-053)¹⁰; and Ensure all personal are wearing life jackets. 	Before each new Dredging Contractor/Operator mobilises dredger into the KCWIB	Dredging Contractor/Operator
Anchoring of dredger inside the KCWIB	Protection of breakwater structure	Damage to breakwater structure	Use of the mooring plates on the breakwater capping as anchoring points.	The duration of the maintenance dredging activities.	Dredging Contractor/Operator
		Damage to breakwater structure	Where cables pass over surface edges of the concrete of the breakwater structure, the concrete must be protected from damage by the cable.	The duration of the maintenance dredging activities.	Dredging Contractor/Operator
	Protection of the vessel	Damage to the vessel as a result of drifting	When the dredger is unattended, it must be double-anchored.	The duration of the maintenance dredging activities.	Dredging Contractor/Operator
Maintenance of dredger inside KCWIB	Deterioration of water quality	Phytoplankton, seabirds and mammals	<ul style="list-style-type: none"> Ensure the vessel is regularly painted to prevent corrosion; Install sacrificial anodes on the vessel; Wash decks daily; and No chemicals to be used during day to day washing of the decks. 	The duration of KNPS	Dredging Contractor/Operator
Maintenance of transfer pipeline	Water quality	Turbidity in intake water	Inspection prior to use – damage and connection from vessel to shore.	Before the start of the maintenance dredging operations.	Dredging Contractor/Operator

Koeberg Dredging Environmental Management Plan

Activity	Aspect	Impact	Management Requirements	Duration	Responsibility
Accidental Events					
Disposal of wastes KCWIB (solid, oily and sewage - including bilge discharges to the sea)	Deterioration of water quality	Potential impact on Phytoplankton, seabirds and mammals	<ul style="list-style-type: none"> No wastes are allowed to be discharged into the intake basin and therefore all wastes must be disposed of on land. No toilet facilities are located on board the dredger. A portable toilet is available on shore at the Contractor/Operator's site office. Removal of the sewage is performed by SANITEC. The bilge water must go through an onboard oil separator before being discharged overboard. Oil and oily emulsions retained in the oil separator shall be treated as hazardous waste and disposed of in accordance with KNPS Waste Management Procedure (EPC 32-245). 	The duration of KNPS	Dredging Contractor/Operator
Presence of dredger KCWIB in	Accidental spills of chemicals stored on board	Potential impact on the ocean and fauna and flora	<ul style="list-style-type: none"> Avoid spilling toxic chemicals but if spillages occur then clean up spilled chemicals immediately and place adsorbent material (rags) used for this purpose in sealed waste containers for safe disposal ashore. Use low toxicity biodegradable detergents to clean up spills. Keep records of spillages and estimate amounts not retrieved by clean up actions. Report the spill to the operating shift manager and follow the Chemical Response Plan (KEP-084)¹¹. 	Life of KNPS	Dredging Contractor/Operator
Grounding / sinking of vessel	Accidental oil spill into the sea	Potential impact on the ocean and fauna and flora	<ul style="list-style-type: none"> Reduce the probabilities of accidental grounding/ sinking through enforcement of safe operational vessel systems and by maintaining the seaworthy condition of the vessel. Ensure that the Skipper of the dredger has a valid SAMSA Commercial Skipper's licence. Compliance with the Employers "Requirements for Activities in the Cooling Water Intake Basin" (KSA-053)¹⁰. 	Life of KNPS	Dredging Contractor/Operator & PM
			<ul style="list-style-type: none"> Maintenance of the dredger's electrical trailing cable and ensuring it is securely fastened to the floating pipeline. Inspect electrical trailing cable weekly during operations and monthly during stand-by. 	Life of KNPS	Dredging Contractor/Operator & PM

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Koeberg Dredging Environmental Management Plan

Activity	Aspect	Impact	Management Requirements	Duration	Responsibility
Accidental Events					
Grounding / sinking of vessel	Accidental oil spill into the sea	Potential impact on the ocean and fauna and flora	<ul style="list-style-type: none"> Maintenance of the electrical equipment on the dredger. The equipment must be suitably insulated from aggressive marine environment. Ensure the dredger as well as the support craft have up-to-date seaworthy certificates. Protect electrical equipment from corrosion by ensuring it is compliant with applicable electrical IP standard. Maintain all emergency procedures and insurances as legally required. and Ensure that emergency procedures are current and in accordance with established standards of practice. 	Life of KNPS	Dredging Contractor/Operator & PM
			In the event that an emergency occurs (grounding, sinking, collision & fire) follow the standards: <ul style="list-style-type: none"> OP-CRR-006: Operating Department Response to Emergencies; and KEP-073: Oil Spill at Sea Response Plan. 	In the event of an emergency	Dredging Contractor/Operator
			In the appropriate manner notify: <ul style="list-style-type: none"> Provincial DEA Chief Directorate of Marine Pollution in Cape Town and coordinate with them on the activation of the Oil Spill Contingency Plan. Information that should be supplied when reporting a spill includes: <ul style="list-style-type: none"> The type and circumstances of incident, vessel type, port of registry, nearest agent representing the vessel's company. Geographic location of the incident, distance off-shore and extent of oil spill. Prevailing weather conditions, sea state in affected area (wind direction and speed, weather and swell). Persons and authorities already informed of the spill. 	In the event of an emergency	PM

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Koeberg Dredging Environmental Management Plan

Activity	Aspect	Impact	Management Requirements	Duration	Responsibility
Accidental Events					
Grounding / sinking of vessel	Safety of personal	Loss of life or injury	<ul style="list-style-type: none"> • Ensure adherence of all personal on the dredger with the Occupational Health and Safety Act. • Ensure there are two people on the dredger at all times during operation. • Ensure all personal on the dredger have undertaken PAT and are declared Fit to Work. • In the event of a medical emergency follow the OP-CRR-006: Operating Department Response to Emergencies Standard. • Ensure all lifesaving equipment onboard the vessel is readily available and well maintained in accordance with the requirements of SAMSA. 	In the event of an emergency	Dredging Contractor/Operator
Nuclear Emergency	Radiation Exposure to Personal	Injury or loss of life	Ensure all personal follow the Activation of the Nuclear Emergency Plan for the Operating Shift (KEP-056) ¹² .	In the event of an emergency	PM

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12.3 Vessel: Dredging Operations

In order to ensure compliance with Eskom's Environmental Policy as well as environmental legislation requirements, the following actions are applicable to the operation phase of the maintenance dredging activities:

Koeberg: Dredging Environmental Management Plan

Activity	Aspect	Impact	Management Requirements	Duration	Responsibilities
Planned Events					
Management of hydrocarbons	Deterioration of water quality	Phytoplankton, seabirds and mammals	Keep records (vessel logbooks) of quantities and types of all hazardous materials and oils taken onboard and of their method of storage, use and disposal.	Life of KNPS, duration of the maintenance dredging operations.	Dredging Contractor/Operator
Dredging operations inside the KCWIB	Suspended marine sediments	Cooling Water Intake to Pumps	The operator should at all times ensure that during maintenance dredging operations the amount of sand/silt disturbed into suspension is kept to a minimum.	The duration of the maintenance dredging campaign.	Dredging Contractor/Operator
		Water Quality		The duration of the maintenance dredging campaign.	Dredging Contractor/Operator
Dredging of the deposit	Management of marine sediment	Destruction of marine sediment profile	For each target area, conduct hydrographic survey prior to dredging and post dredging, to determine / provide information on: <ul style="list-style-type: none"> The depth of the basin before the commencement and after the completion of the maintenance dredging operations; The thickness (volume) of the marine sediment to be dredged; The type of marine sediments to be dredged (e.g.: silt, sand, clay); Date and time of the commencement and completion of the maintenance dredging operations; The volume of the marine sediment that is dredged per event; The location of the maintenance dredging operations; and The discharge rate of the disposal of the dredge spoil to shore. 	Before the start and end of the maintenance dredging programme.	Dredging Contractor/Operator
		Level of the basin	Monitor the level of the basin with hydrographic surveys in order to determine dredge intervals.	Post dredging, in year 3, 5 and thereafter at redefined intervals	PM
Maintenance of transfer pipeline	Land impact	Spillage onshore	<ul style="list-style-type: none"> Daily inspection during operations – damage along entire length of pipe from shore to outlet. 	During maintenance dredging operations	Dredging Contractor/Operator

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Koeberg Dredging Environmental Management Plan

Activity	Aspect	Impact	Management Requirements	Duration	Responsibilities
Accidental Events					
Grounding / sinking of vessel	Accidental oil spill into the sea	Potential impact on the ocean and fauna and flora	Refer to Mobilisation Table.	Refer to Mobilisation Table.	Refer to Mobilisation Table.
			Only operate vessel during safe operating conditions. Ensure adherence to the Severe Weather Guide (KGG-001).	During the maintenance dredging operations.	Dredging Contractor/Operator
	Safety of personal	Loss of life or injury	Refer to Mobilisation Table.	Refer to Mobilisation Table.	Refer to Mobilisation Table.
Nuclear Emergency	Radiation Exposure to Personal	Injury or loss of life	Ensure all personal follow the Activation of the Nuclear Emergency Plan for the Operating Shift (KEP-056) ¹² .	In the event of an emergency.	PM

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12.4 Vessel: Demobilisation Operations at the Termination of the Contract:

In order to ensure compliance with Eskom's Environmental Policy as well as environmental legislation requirements, the following actions are applicable to the demobilisation phase of the maintenance dredging activities:

Koeberg Dredging Environmental Management Plan

Activity	Aspect	Impact	Management Requirements	Duration	Responsibility
Planned Events					
Record keeping	Monitoring & Measurement	Long term environmental management	Dredging Contractor to hand over all records to PM at the end of Contract Period.	The end of each Dredging Contractor/Operator's contract.	Dredging Contractor/Operator
Removal of the dredger from KCWIB	Safety of personal	Loss of life or injury	<ul style="list-style-type: none"> • Ensure the quayside is clear of debris; • Ensure the crane is well maintained; • Ensure the crane has a certification that ensures fit for use and is within safe working limits; • Compliance with the Employers "Requirements for Activities in the Cooling Water Intake Basin" (KSA-053)¹⁰; and • Ensure all personal are wearing life jackets. 	The end of each Dredging Contractor/Operator's contract.	Dredging Contractor/Operator
Removal of all Contractor's/ Operator's equipment from site	Waste Management	Decreased waste at site	Ensure all equipment is removed from site.	The end of each Dredging Contractor/Operator's contract.	Dredging Contractor/Operator
Audit	Compliance	Environmental impact of the maintenance dredging and depositional activities	ECO to audit Dredging Contractor/Operator's environmental compliance.	The end of each Dredging Contractor/Operator's contract.	ECO

Koeberg Dredging Environmental Management Plan

Activity	Aspect	Impact	Management Requirements	Duration	Responsibility
Accidental Events					
Equipment loss at sea	Disturbance of the seabed	Smothering of benthos	Recover any major items from the seabed after operations have been completed, in compliance with relevant legislation	Life of KNPS	Dredging Contractor/Operator
Grounding / sinking of vessel	Accidental oil spill into the sea	Potential impact on the ocean and fauna and flora	Refer to Mobilisation Table.	Refer to Mobilisation Table.	Refer to Mobilisation Table.
	Safety of personal	Loss of life or injury	Refer to Mobilisation Table.	Refer to Mobilisation Table.	Refer to Mobilisation Table.
Nuclear Emergency	Radiation Exposure to Personal	Injury or loss of life	<ul style="list-style-type: none"> Ensure all personal follow the Activation of the Nuclear Emergency Plan for the Operating Shift (KEP-056)¹². 	In the event of an emergency	PM

13. MONITORING PLAN

The following monitoring plans will be implemented as part of the EMP:

Activity	Criteria	Frequency
Dredging Operations		
Dredging Activities	<ul style="list-style-type: none"> Retain records of the volumes of the marine sediments dredged and timings of events. Progress surveys to be conducted regularly. 	Per event
Transport and transfer of dredged material		
Discharge of dredged spoil	<ul style="list-style-type: none"> Retain records of the volumes of the marine sediments discharged to shore and timings of event. 	Per event

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14. DEVELOPMENT TEAM

Name	Designation or Business area
Vicky Stevens	WorleyParsons – Senior Marine Environmental Scientist
Michelle Herbert	WorleyParsons – Project Leader / Environmental Scientist

15. ACCEPTANCE AND REVIEW

The following personnel were given the opportunity to provide review comments (Refer to Section 16):

Name	Designation or Business area
Jana Klopper	Eskom – Koeberg Senior Advisor Environmental
Petal Davids	Eskom – Koeberg
Shaun Daniels	Eskom – Koeberg
Deon Jeannes	Eskom – Koeberg Environmental Manager
Jeany Lekganyane	Eskom – Senior Environmental Advisor
Malcolme Logie	WorleyParsons Principal Environmental Scientist
Emily Herschell	WorleyParsons Senior Environmental Scientist

16. REVISION INFORMATION

Date	Rev.	Compiler	Remarks
May 2013	Draft 4	V Stevens	Incorporated written comments and changes received from Malcolme Logie (WP), Michelle Herbert (WP), Deon Jeannes and Jeany Lekganyane. Incorporated discussions and changes required by Shaun Daniels and Jana Klopper.
February 2014	Draft 5	V Stevens	Incorporated comments received from the public at the PSIF. Updated public participation information.
March 2014	Final	M Herbert	Update public participation information, include minutes of PSIF and finalise for submission to DEA for approval.

17. REFERENCES

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2. Lochner, P., 2005. *Guideline for Environmental Management Plans*. CSIR Report No. ENV-S-C 2005-053 H.RSA, Provincial Government of the Western Cape, Department of Environmental Affairs and Development Planning, Cape Town.
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4. PRDW, 2012. Koeberg Nuclear Power Station, Oceanographic Engineering Services. *Dredging Environmental Impact Report*. Document No: 1105/02, July 2012.
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16. Eskom, 2013. *Control Room Response to Emergencies*. KWB-OP-CRR 006.
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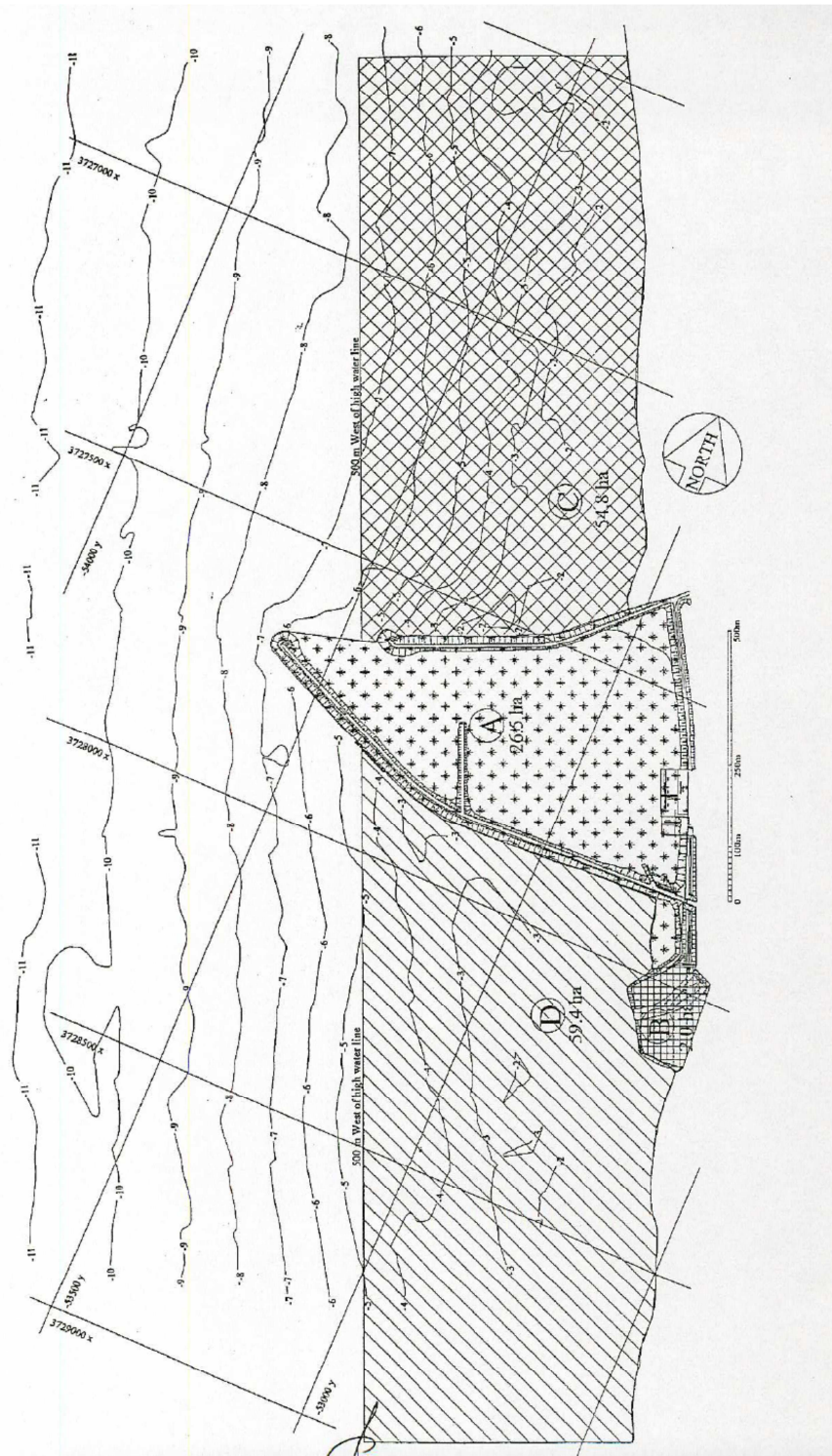


Figure 3: A map showing the locations stipulated by the two leases with the Western Cape Nature Conservation (Section 5.1)

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APPENDIX B: KOEBERG'S ENVIRONMENTAL POLICY



Policy Statement

We in the Koeberg Operating Unit are committed to:

- The safe generation of electricity.
- Strive towards zero harm to people, plant and the environment, and to continuously improve our performance.
- The health and safety of all affected parties and to the protection of the environment.
- Provide optimal resources that are trained and motivated to maintain and improve nuclear safety, conventional safety, health, radiological, environmental and quality standards.
- Ensure all risks and activities have sound safety margins and defence in depth barriers.
- Openly communicate and support a positive nuclear safety, conventional safety, health, radiological, environmental and quality (SHEQ) culture amongst employees and all affected parties.
- Comply with all relevant safety, health, radiological, environmental and quality legislation and corporate requirements.
- Ensure that contractors and suppliers to the Koeberg Operating Unit manage their own SHEQ system in line with this policy.
- Proactively taking steps to protect and promote conservation of the environment and natural resources.

Core Beliefs

We believe that:

- Nuclear and conventional safety is fundamental to our business and will not be compromised.
- All accidents, injuries, occupational diseases, and pollution to the environment are preventable.
- Nuclear and conventional safety, health, radiological, environmental, and quality requires the commitment of all employees, contractors and management.

Framework

Our intention is to:

- Maintain a nuclear safety and SHEQ risk assessment process to ensure continuous evaluation of current and new risks.
- Identify and mitigate all significant risks and develop objectives and targets to meet the Koeberg Operating Unit's nuclear safety and SHEQ requirements.
- Ensure that all radiation exposures of site personnel and the affected parties are kept as low as reasonably achievable (ALARA).
- Strive for excellence in everything we do by utilising operating experience, fundamentals and human performance tools.

Responsibilities


- Senior management is accountable for driving the principles, objectives and performance targets of this policy within the Koeberg Operating Unit.
- Senior management demonstrates commitment to nuclear and conventional safety, health, radiological, environmental and quality management systems.
- Line management is accountable for implementing and sustaining nuclear safety and the SHEQ processes in their functional areas.
- All personnel in the Koeberg Operating Unit are responsible for promoting nuclear and conventional safety, utilising human performance tools, learning from operating experience, applying ALARA principles and preventing harm to themselves, others, the station and the environment.

Review

We undertake to:

- Routinely review the Koeberg Operating Unit's Nuclear Safety, Conventional Safety, Health, Radiological, Environmental and Quality Policy to ensure it remains relevant and appropriate.
- Make this document available and communicate it to all interested and affected parties.


CR-le Roux
Senior General Manager (Koeberg)


Date

Nuclear Division SHEQ Policy Re

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APPENDIX C: COMPETENCY OF THE PRACTITIONERS RESPONSIBLE OF THE EMP.

WorleyParsons RSA (Pty) Ltd has been appointed by Eskom SOC Holdings Limited ("Eskom") to develop the EMP required for the existing maintenance dredging activities at the KNPS in terms of the EIA Amendment Regulations, 2010, in compliance with section 24N of the NEMA, as amended in 2010.

The qualifications of the key individual practitioners responsible for the development of this EMP are:

Environmental Consultant: Michelle Herbert

Michelle is an Environmental Scientist with more than seven years' experience in the field of environmental and waste management in South Africa. Her experience focuses on the management of environmental impact assessment and basic assessment processes, waste management and water use license applications and environmental management programmes as required by environmental legislation for proposed and existing developments. These developments vary from linear activities such as road and pipeline projects to waste-to-energy and hydrocarbon projects. She has a working knowledge of South African environmental legislation including the NEMA (and EIA Regulations), NEM: WA, NEW: BA, NEM: AQA and NWA. She has experience in the appointment and management of specialist consultants to conduct studies such as ecological, botanical, geo-hydrological, socio-economic, archaeological and paleontological impact assessments as part of the environmental impact assessment process. She also has experience of the public participation process including leading focus group and public meetings, management and response to issues raised by stakeholders and the final integration of concerns/issues into the project with specialist and design input.

She has compiled various water use license applications and water quality management reports for several municipal wastewater treatment facilities in the Northern and Western Cape to assist municipalities to comply with Green Drop requirements. Her experience also extends to the compilation of Integrated Water and Waste Management Plans for existing operational facilities, such as Foskopur in Richards' Bay.

As Environmental Control Officer for various construction sites she gained experience in the environmental monitoring of construction activities.

Senior Marine Environmental Consultant: Vicky Stevens

Vicky Stevens is a Senior Marine Environmental Consultant with over eight years' experience. Vicky specialises in Environmental Impact Assessments (EIAs) of developments occurring in the marine and coastal zone. She has been involved in the project management and preparation of multiple EIAs for oil and gas developments and decommissioning activities in the UK and Africa. She has extensive experience in monitoring the environmental impact of maintenance dredging activities in Cape Town harbour. She has also been involved in marine specialist studies of effluents, blasting activities and coal transport on the marine environment.

APPENDIX D: KOEBERG'S DUMPING PERMIT



environmental affairs

Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

REF: V1/1/2/32/5/1

Enquiries: Y. Peterson

Tel: 021 402 3158 Fax: 021 402 3009 E-mail: ypeterson@deat.gov.za

Permission is hereby granted in terms of the Dumping at Sea Control Act, 1980 (Act 73 of 1980) and the Integrated Coastal Management Act (Act 24 of 2008) to the **Power Station Manager: Koeberg Nuclear Power Station** to dump **350 000 m³** of dredged material from maintenance dredging into the sea.

This permit is subject to the terms and conditions set forth in Sections B and C further below.

SECTION A: PERMIT GRANTED

Permit number : General Permit Number 01/2013
Applicant : Koeberg Nuclear Power Station
Address : Private Bag X10 Kernkrag
Activity : Loading and disposal of maintenance dredged material
Dumping material : Dredged material
Volume : 350 000m³
Depth range :
Contractor / Transporter : Name to be supplied
Period of validity : 01 January 2013 to 31 December 2013

SECTION B: SPECIFIC CONDITIONS

The applicant is required to adhere to the following specific conditions under which this permit is granted:

1. Dumpsite

1.1 Dumping shall take place in the surf zone, immediately south of the cooling water intake basin.

Disposal site boundaries

X = 52916.179 Y = 3727850.955
X = 52186.293 Y = 3727846.680
X = 52794.251 Y = 3727823.809
X = 52798.058 Y = 3727821.462

2. Materials, dredging and disposal methodology

2.1 No harmful materials shall be dumped.

2.2 Vessels authorised to transport the dredged material shall avoid spillages at places other than the permitted disposal site. In the event of a spillage occurring outside the designated dumping area, an incident report must be compiled and submitted to the Department immediately.

2.3 This permit must, in its complete form, be made available onboard the dredger(s) and disposal vessel(s) for inspection purposes.

2.4 The applicant shall notify the Department in writing at least 48 hours before the commencement of the dredging and disposal operations.

Koeberg Dredging Environmental Management Plan

Permit No. 01/2013: Koeberg Nuclear Power Station

- 2.5 Dumping of any materials not specifically identified, or in excess of that authorised under this permit shall constitute an offence of the Dumping at Sea Control Act, 1980 (Act 73 of 1980), the Integrated Coastal Management Act (Act 24 of 2008) and this permit.
- 2.6 The exact volume of the material dumped shall be reported to the Department within three months of completion of the operation or expiry of the permit, whichever comes first.

SECTION C: GENERAL CONDITIONS

The applicant is required to adhere to the following general conditions:

1. This permit does not exempt the applicant from complying with any other applicable legislation.
2. The applicant must admit any enforcement officer or other official designated pursuant to Section 5 of the Dumping at Sea Control Act, to any vessel or structure involved in the loading or disposal at sea referred to under this permit, at any reasonable time during the period of this permit.
3. This permit may not be transferred or assigned to any other organisation, except with written permission from the Department.
4. The Department reserves the right to amend or revoke this permit on the basis of non-compliance or should it be determined that dumping has resulted, is resulting, or may result, in significant harm to the marine environment or human health.
5. This permit is granted on the assumption and condition that all information submitted by the applicant in connection with the granting of this permit is, complete, true and correct in all material respects.
6. All reports and correspondence to the Department under this permit shall be submitted to: The Deputy Director: Marine and Coastal Pollution Management, Department of Environmental Affairs, Private Bag X2, Rogge Bay 8012, Cape Town; Tel (021) 402 3158, Fax (021) 402 3009.
7. This permit is valid for the period 1 January 2013 to 31 December 2013.


CHIEF DIRECTOR: INTEGRATED COASTAL MANAGEMENT & DEVELOPMENT

DATE: 20/12/2012

Receipt of R300.00 application fee is hereby acknowledged.

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APPENDIX E1: PUBLIC PARTICIPATION RECORD

BACKGROUND AND OBJECTIVES

Although there are no specific requirements for stakeholder engagement requirements for EMPs in the NEMA, it is considered best practice that an appropriate level of stakeholder engagement occurs during the EMP development, implementation, and revision phases. The EMP must also be developed and implemented in consultation with government departments (including the lead environmental authority). These departments would need to agree on the contents of the EMP and possibly provide specific permits or licenses.

The main benefit of involving stakeholders in the EMP is to include local knowledge and to ensure that the EMP addresses aspects of the project that could be a source of social risk.

In consultation with the DEA, Eskom agreed to inform all the relevant stakeholders of the availability of the draft EMP for public review through:

- Advertising the presentation of the draft EMP at the Koeberg PSIF. The Agenda for the PSIF was advertised in the *Impact 24/7*, *Weskusnuus*, *TygerBurger*, and *TableTalk* newspapers and on KNPS's website.
- Advertising the availability of the updated draft EMP in the *TygerBurger* Newspaper and on KNPS's website.
- Placing copies of the updated draft EMP in local libraries (such as Koeberg and Table View).
- Submitting the updated draft EMP to all relevant authorities (DEA, DEA: Oceans and Coasts; DEADP and CCT) for review and approval.

METHODOLOGY

The Public Participation Phase of the draft EMP consisted of two stages of public review. The first stage consisted of a presentation of the draft EMP at the Koeberg PSIF. The second stage consisted of an advertisement of the availability of the updated EMP for public review and comment.

Stage One: Koeberg Public Safety Information Forum

The agenda for the PSIF¹, that was held on the 28 November 2013, was advertised in the *Tygerburger* (20 November 2013); *Impact 24/7* (27 November 2013), *Weskusnuus* (27 November 2013); and the *TableTalk* (20 & 27 November) newspapers. The presentation of the draft EMP at the PSIF was included in this agenda. A copy of the report was made available for review on placed on Eskom's KNPS website.

The draft EMP was presented to the members of the public that attended the PSIF meeting as indicated above.

Please refer to the attached presentation (Appendix E2) and section 9 of the minutes of the meeting (Appendix E3).

¹ The PSIF is a meeting which takes place four times a year. It is used as a platform for residents residing within the municipal boundary of Koeberg Nuclear Power Station to enquire and receive nuclear-related information from the facility.

About the Koeberg Public Safety Information Forum



Section 26(4) of the NNR Act. "The holder of a nuclear installation licence must establish a public safety information forum as prescribed in order to inform the persons living in the municipal area in respect of which an emergency plan (EP) has been established on nuclear safety and radiation safety matters."

What is the Public Safety Information Forum (PSIF)?

The PSIF is a meeting which takes place four times a year. It is used as a platform for residents residing within the municipal boundary of Koeberg Nuclear Power Station to enquire and receive nuclear-related information from the facility.

Which topics are discussed?

The forum will address any topic that the members feel could impact their health, environment and safety from a nuclear and emergency preparedness point of view.

Who should attend?

All persons living within the municipal area around Koeberg; all affected and interested organisations or parties and any other persons concerned with their health and safety from a nuclear and radiation safety point of view are welcome to attend the forum. Persons wishing to attend are requested to register as a member.

How do I register?

Email your details to Pienasz@eskom.co.za. Call 021 550 5227 or fax 086 577 8873.

When are the PSIF meetings held?

Dates for 2013: the last PSIF meeting for 2013 will be held on Thursday, November 28.

Who to talk to

For more information, call Lewis Phidza, Koeberg Stakeholder Management Manager on 021 550 5758 or email Phidzanl@eskom.co.za, alternatively call Bernice Rodrigues on 021 550 5227 or email Rodrigb@eskom.co.za.



Koeberg PSIF

28 November 2013 Public Safety Information Forum

Join the Koeberg Public Safety Information Forum (PSIF) for insightful dialogue around Nuclear Safety.

All residents, interested parties and organisations are cordially invited to attend the Koeberg PSIF.

The details for the Forum are as follows:

Agenda points

- Koeberg Nuclear Safety Quarterly Feedback
- Feedback on the PSIF Deputy Chairperson Position
- Integrated Koeberg Nuclear Emergency Plan: Public Notification and Road blocks – CoCT Law Enforcement and Traffic Services
- Draft Environmental Management Programme for Dredging of the 'Cooling Water Intake Basin' at Koeberg

Venue : Nuclear Auditorium, Koeberg Bulk Stores, Koeberg Nuclear Power Station

Time : 19:00

Should you be attending the Forum, please note that positive proof of identification will be required in order to access the venue. Please show your valid passport, South African driver's licence, or South African identity (ID) document when requested to do so. For more information contact Lewis Phidza, Koeberg Stakeholder Management Manager, at tel. +27 21 550 5758/5227 or via email Phidzanl@eskom.co.za.



Koeberg Nuclear Power Station
R27 Off West Coast Road, Melkbosstrand
www.eskom.co.za
Eskom Holdings SOC Limited Reg No 2002/015527/06



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Stage Two: Notification of the availability of the EMP for public review comment

On the 11 February 2014 the updated draft of the EMP was made available for public review and comment for a period of 21 days. The review was advertised in the *TygerBurger* on 12 February 2014 (Appendix E4).

The following authorities received copies of the document for comment and review:

Name	Department
Toinette van der Merwe	Integrated Environmental Authorisations Department of Environmental Affairs
Ulric van Bloemestein	Department of Environmental Affairs Branch: Oceans and Coasts
leptieshaam Bekko	Department of Environmental Affairs and Development Planning: Directorate: Coastal Management
Wendy Gaisford	Department of Environmental Affairs and Development Planning: Directorate: Land Management (West Coast: <u>Region B2</u>)
Pat Titmus	City of Cape Town: Department: Environmental Resource Management (<u>Northern Districts B & C</u>)


All comments received from I&APs are addressed and the EMP will be updated to address these comments. The Final EMP will be submitted to the National Department of Environmental Affairs for approval.

Summary of Issues Raised By I&APs


The key issues raised by I&APs during the course of the public participation process are summarised below:

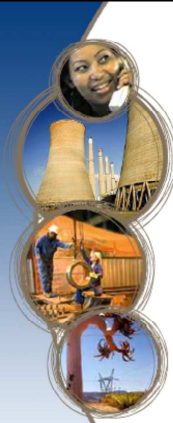
Key Issue	Comment/ Reference
Comments from the PSIF	
Query regarding the definition of dredging.	Dredging has been defined in Section 1 of the EMP in the Table of Definitions. Dredging is an excavation activity or operation that is usually carried out at least partly underwater, in shallow seas or freshwater areas with the purpose of gathering up bottom sediments and disposing of them at a different location
Request to convert the volume of sediment into real life scenarios.	The volumes of sediment that are recorded in Sections 4.2 and 5.1 of the document have been converted to real life scenarios. These are: 132 000 m ³ /a ⁴ (this is approximately equivalent to 1 320 loads from a dump truck). 350 000 m ³ (this is approximately equivalent to 35 000 loads from a dump truck)

Koeberg Dredging Environmental Management Plan



**Draft Environmental Management Plan for the
Maintenance Dredging Operations at the Intake
Basin at Koeberg**





1


Introduction and Overview of Presentation


Project Background

- The purpose of the Cooling Water Intake Basin.
- Why maintenance dredging is required in the intake basin?
- Why the EMP for the maintenance dredging operations was developed?

Environmental Management Plan

- What environmental aspects are covered by the EMP?






Project Background


Main Function of the Cooling Water Intake Basin

- Acts as a sediment settling basin.
- Allows Koeberg to withdrawal sediment free seawater for power station cooling.

The seawater needs to be sediment free to prevent abrasion to the:

- The abstraction pumps.
- The condenser tubes
- Settling of sand in plant systems






3

Project Background

Why Dredging is Required?

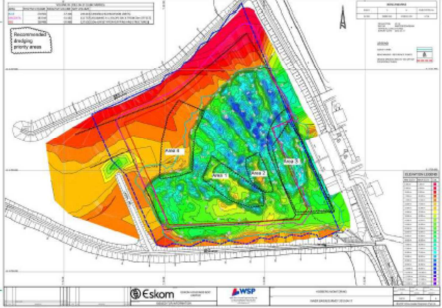
- The rate of sedimentation within the intake basin is on average approximately 132 000 m³ per year (due to the high level of wave energy on this coast, and the high cooling water flow rates).
- The inner basin is permitted to accumulate 300 000 m³ to 400 000 m³ of sediment.
- The inner basin is surveyed regularly to ensure that the amount of accumulated sediment on the bottom of the basin does not exceed the permitted amount.
- The surveys also show the priority areas of the basin that need to be dredged.




4

Project Background

Recommended dredging priority areas (April 2012 survey)





5

Project Background

Why Dredging is Required?

- Approximately 132 000 m³ of sediment is dredged from the intake basin on an annual basis.
- The dredge spoil is deposited south of the outlet basin through a pipeline into the surf zone.
- Acts as a by-pass system.






6


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Koeberg Dredging Environmental Management Plan

Environmental Management Plan (EMP)

Development of the EMP

- National Environmental Management Act (NEMA) and the Environmental Impact Assessment (EIA) Regulations require the maintenance dredging and depositional activities to be managed by an EMP and approved by the Department.
- The EMP is a management tool to ensure that undue or reasonably avoidable adverse impacts of the mobilisation, operation and demobilisation of the maintenance dredging activities are mitigated or prevented; and that the positive benefits of these activities are enhanced.
- In line with Eskom's environmental policy – striving towards zero harm to the people, plant and environment.



7

EMP

Environmental Aspects

Mobilisation

- Planned Events**
 - Safety of personal – life jackets
 - Protection of the breakwater structure – use of mooring points for anchoring
 - Maintenance of the dredger – anti-corrosion paint
 - Maintenance of transfer pipe – regular inspection
- Accidental Events**
 - Prevention – seaworthy, commercial SAMSA licence




8

EMP

Environmental Aspects

Operation

Planned Events

- Minimisation of suspended sediment
- Keeping accurate data records of the timing, location, amount of sediment dredged and rate of deposition of dredge spoil
- Maintenance of transfer pipe – prevent land spillage

Accidental Events

- Grounding of the vessel – implementation of Koeberg's Oil Spill Plan



9

EMP

Environmental Aspects

Demobilisation

- Safety of personnel – wearing Personal Protective Equipment
- Record keeping – monitoring and measurement
- Audit
- Recovering of items lost at sea
- Removal of all equipment from site



10

EMP


Monitoring Plans

- Record keeping of all dredging and deposition data
- On-going long-term beach monitoring programme at Ou Skip
- Analysis of data by an Marine Ecologist



11

Questions



12

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APPENDIX E3: DRAFT MINUTES OF THE MEETING

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Koeberg Public Safety Information Forum (PSIF)

Minutes of the Meeting held on 28 November 2013

Venue: Nuclear Auditorium, Bulk Stores, Koeberg Nuclear Power Station

Chairperson: Ms Smokie La Grange

Deputy Chairperson: Vacant (announced on 28 November 2013)

Attendance list				
Name and Surname	Organisation	Present	Absent	Apologies
Adair, Gaynor	Resident		A	
Adair, Rosemary	Resident		A	
Alias, L	Resident		A	
Arries, S	Resident		A	
Baker, Alto	Resident		A	
Bevan, Cynthia	Resident		A	
Christa Kleynhans	Resident	P		
Botes, Maralise	Resident		A	
Boulanger, Catherine Irene	Resident	P		
Braswell, Jackie	Resident		A	
Brown, Mike	Resident		A	
Brown, Clare	Resident		A	
Browne, Peter	Resident	P		
Cannel, Roger	Resident		A	
Clayton, Cynthia	Resident		A	
Cloete, Priscilla	Resident		A	
Christian, Eric Dominique	Resident		A	
Cwaile, Tshepo Shane	Resident		A	
Dampies, Jeremiah	Resident		A	
De Waal, Daniel	Resident		A	
Dobson, Clive	Resident		A	
Ducase, Daryl	Resident		A	
Fritz-Whyte, Amanda	Resident		A	
Gelant, Alida	Resident		A	
Handt, Brema	Resident		A	
Henstock, WT	Resident		A	
Hotten, Alexandra	Resident		A	
Iosiphakis, John I	Resident			Apologies
Jansen van Vuuren, Marissa	Resident		A	
Jansen van Vuuren, Elzeth	Resident		A	
Jentu, Mwezi	Resident		A	
Johnson, Kurt	Resident		A	
Johnson, Teresa	Resident		A	
Kleynhans, Christa	Resident	P		
La Grange, Duval	Resident	P		

Laing, Brett	Resident		A	
Lategan, Peter	Resident		A	
Lee, Nick	Resident		A	
Lewies, Ben	Resident	P		
Lingard D	Resident		A	
Luhanga, Peter	Resident		A	
Macalex, Justin	Resident		A	
Mack, Cyril	Resident		A	
Manguwo, L	Resident		A	
Maigrot ,Mr	Resident	P		
Maigrot, Mrs	Resident	P		
Maree, B	Resident		A	
Mayhew, Robert	Resident	P		
Mayhew, Sylvia	Resident	P		
Meyer, Yolande	Resident		A	
Meyrick, MAC	Resident		A	
M'Gill Grant	Resident		A	
Mvunelwa, Maphelo	Resident		A	
Nagan, Roy	Resident		A	
Odendaal, WJ	Resident		A	
Olifant, Danny	Resident		A	
Opperman, Elbe	Resident		A	
Opperman, Francois	Resident		A	
Payne, Samantha-Ann	Resident		A	
Pereira, Jose LF	Resident		A	
Perold, Arthur James	Resident		A	
Piloso Mogale, Wilson	Resident		A	
Pombo-van Zyl, Nicolette	Resident	P		
Rass, Barbara	Resident		A	
Rass, Wendy	Resident		A	
Radmyn, Dave	Resident		A	
Richards, Ananda	Resident		A	
Rothen, Ueli	Resident		A	
Simon, Mark	Resident		A	
Slabbert, J A	Resident		A	
Smith, Henry	Resident		A	
Siyo, Phinda	Resident		A	
Storah, Unis	Resident		A	
Taylor, John	Resident			Apologies
Thear, HT	Resident		A	
Thomas, Daniël	Resident		A	
Longden-Thurgood, M	Resident		A	
Van Der Merwe, Andre	Resident	P		
Van Schalkwyk, Whelmi	Resident		A	
Van Schalkwyk, J	Resident		A	
Werth, S	Resident		A	
Wetter, Chris	Resident		A	
White, Harry	Resident		A	

Wilkinson, David	Resident		A	
Wilkinson, Donree	Resident		A	
Williamson, Raymond (Mr.)	Resident			Apologies
Williamson, Mrs	Resident			Apologies
Wilson, BSJ	Resident	P		
Wilson, D	Resident	P		
Wilson, Tug	Resident		A	
Wilson, S	Resident		A	
Windvogel, Raybin	Resident		A	
Officials				
Bakardien, Riedewaan	Eskom Holdings SOC Limited	P		
Featherstone, Keith	Eskom Holdings SOC Limited	P		
Herbert, Michelle	Worley Parsons, RSA (Pty) Ltd	P		
Hill, Tim (Dr)	National Nuclear Regulator		A	
Jeannes, Deon	Eskom Holdings SOC Limited	P		
Joshua, Debbie	Eskom Holdings SOC Limited		A	
Kgomo, Ditebogo	Department of Energy		A	
Kline, Kim	Eskom Holdings SOC Limited		A	
La Grange, Smokie	PSIF Chairperson	P		
Makgae, Reuben	National Nuclear Regulator		A	
Makhathini, Simphiwe	Department of Public Enterprises (DPE)		A	
Majola, Vanessa	NNR Koeberg Site Office		A	
Maphoto, Katse	Department of Energy		A	
Mnisi, Bongani	City of Cape Town		A	
Moonsamy, Gino	National Nuclear Regulator	P		
Nhleko, S (Dr)	National Nuclear Regulator		A	
Nicholls, Dave	Eskom Holdings SOC Limited – General Manager (Nuclear Engineering)	P		
Phidza, Lewis	Eskom Holdings SOC Limited	P		

Pillay, Greg	City of Cape Town	P		
Pienaar, Shaun	Eskom Holdings SOC Limited	P		
Powell, Charlotte	DRMC – City of Cape Town		A	
Radebe, Phindile	Eskom Holdings SOC Limited	P		
Saaymans, Martin	Eskom Holdings SOC Limited		A	
Schrönen, Arno	CoCT Traffic Services	P		
Seitse, Victoria	National Nuclear Regulator	P		
Spotten, John	City of Cape Town		A	
Stevens, Vicky	Worley Parsons RSA (Pty) Ltd	P		
Steyn, Elmien (Dr.)	City of Cape Town			Apologies
Trollope, Ian	Eskom Holdings SOC Limited	P		
Tselane, Thabo	National Nuclear Regulator		A	
Tsebe, Andretta	Department of Public Enterprises (DPE)		A	
Tyobeka, Bismark (Dr.)	National Nuclear Regulator (CEO – 2013)		A	
Van Schalkwyk, Johannes	SAPS			Apologies
Van Rensburg, Stephen	Head: Area North Disaster Risk Management Centre	P		
Van Vuuren, Charles	Law Enforcement	P		
Xaso, Simphiwe	Eskom Holdings SOC Limited		A	

Abbreviation/definition list			
Abbreviation	Description	Abbreviation	Description
KNPS	Koeberg Nuclear Power Station	CoCT	City of Cape Town
KOU	Koeberg Operating Unit	IAEA	International Atomic Energy Agency
NNR	National Nuclear Regulator	DOC	Disaster Operations Centre
KPSIF	Koeberg Public Safety Information Forum	SABC	South African Broadcasting Corporation
ISO	International Standards Organisation	mSv	MilliSieverts
PSM	Power Station Manager	EP	Emergency Plan
SAPS	South African Police Service	UPZ	Urgent Protective Action Planning Zone
MW	Megawatts	Emergency	An event that requires taking prompt action, or the special regulation of persons or property, to limit the risk to people's health, safety or welfare, or to limit damage to property or the environment
ECC	Emergency Control Centre	Evacuation	The rapid, temporary removal of people from the area to avoid or reduce short-term radiation exposure in the event of an emergency
Emergency Plan	A document describing the organisational structures, its roles and responsibilities, concept of operation, means and principles for intervention during an emergency	Plant	Nuclear Power Station with associated components, machinery, equipment or devices
PAZ	Precautionary Action Zone	National Electricity Grid	The network of high-voltage power lines between major power stations
LTI	Lost Time Injury	WANO	World Association of Nuclear Operators
NSRB	Nuclear Safety Review Board	Radiation	Energy released in the form of particles or electromagnetic waves during the breakdown of radioactive atoms.

Public Notification	Notification to the public of an emergency and the appropriate protective actions to be taken by using the installed siren and loudspeaker system, as well as local authorities, local radio and television station.	Sheltering	A protective action whereby members of the public stay indoors with windows and doors closed, to reduce their exposure to radioactive material in an emergency situation.
Release	The controlled or accidental discharge of radioactive substances into the environment	EMP	Environmental Management Plan
Accident	An unintended event, including operating errors, equipment failures or other mishaps.	Disaster Management	A continuous and integrated multi-sectorial, multi-disciplinary process of planning and implementation of measures aimed at: <ul style="list-style-type: none"> a) Preventing or reducing the risk of disaster b) Limiting the severity or consequences of disasters c) Emergency preparedness d) Responding rapidly and effectively to disaster; and e) Post-disaster recovery and rehabilitation
FCs	Functional Co-ordinators	EPSOC	Emergency Planning Steering and Oversight Committee
TEM	Traffic Evacuation Model	SAMGs	Severe Accident Management Guidelines
EPZ	Emergency Planning Zone	UPZ	Urgent Protective Action Zone
SHEQ	Safety Health Environment and Quality	KCWIB	Koeberg Cooling Water Intake Basin

1. Opening and welcome

The Chairperson welcomed everyone to the Meeting.

2. Safety briefing

Mr Shaun Pienaar conducted the safety evacuation briefing, informing members about the safety protocol of the venue.

3. The following apologies were tendered (November 2013)

- Dr Elmien Steyn (City of Cape Town)
- Mr Johannes van Schalkwyk (SAPS)
- Mr Ray Williamson
- Mrs Williamson
- Mr John I Iosiphakis
- Mr John Taylor

4. Acceptance of the Minutes of the Previous Meeting (September 2013)

The Minutes were accepted by Mr Mayhew and seconded by Mr Maigrot.

5. Matters arising

Suggestion by Mr Mayhew

Mr Mayhew suggested that the list of abbreviations at the back of the PSIF minutes move to the front for ease of reference.

Response by the Chairperson

The Chairperson acknowledged this as a good point and indicated that this will be implemented in the next Minutes, as agreed by the members.

6. Koeberg Quarterly Feedback - Mr Riedewaan Bakardien Koeberg Power Station Manager

Fourth quarter feedback

Summary

Unit 1

- Mr Bakardien reported that due to an earth fault on the turbine lubrication pump the Unit 1 turbine was manually tripped on 23 October 2013. This occurred on the non-nuclear side of the plant. However, the turbine is regarded as a significant component and any threat to this is taken very seriously, hence the decision was taken to trip the unit, which was returned to service 2.5 days later, once all the repairs had been effected.

- Unit 1's 20th outage (Outage 120) commenced on 11 November 2013, and the unit is planned to be returned to service on 24 December 2013 (43 days). 12 000 activities will be completed during this outage and the scope is as follows:
 - Refuelling the reactor and replacing a leaking fuel element (very small leak as indicated by radiochemistry results)
 - Comprehensive Steam Generator tube inspections
 - Modifications to the station's radiological monitoring system and main steam safety valves

Unit 2

- Unit 2 has remained at 100% power for the last quarter.
- There are no nuclear safety concerns. However, there is continuous monitoring of an oil leak on the Generator Excitation Transformer, which will be repaired during Outage 220 (planned start date: 24 March 2014).

General plant

- Koeberg Nuclear Power Station's accumulated 12 month dose has declined to its lowest level in five years in November 2013, which is a result of some of the interventions introduced to reduce dose to the employees.
- The National Electricity Grid has become extremely tight – consumers are requested to use electricity sparingly.
- Station focus: the safe operation of Unit 2 and the safe return to service of Unit 1, following the current outage. Additional measures are taken during an outage to safeguard the running unit, including barricading to separate the two units.
- The station has achieved 2 million injury-free hours, reflecting a big improvement in industrial safety at the station.
- A nuclear safety culture awareness campaign, based on the nuclear safety culture traits developed by the World Association for Nuclear Operations (WANO) is being rolled out. This is aimed at further emphasising the nuclear safety message at the station.
- A new safety oversight body, the Nuclear Safety Review Board (NSRB) was established in November 2013 to provide additional oversight of Koeberg's safety performance to the Eskom Board.

Question by Mr Mayhew

Mr Mayhew asked how many people serve on this board (NSRB), what their experience is, what their mandate is and how often they meet.

Response by Mr Bakardien

Mr Bakardien responded that there are four international members, with a vast amount of nuclear generation experience. All of them have previously held various senior management positions at either power station level or higher, i.e. WANO and IAEA. They meet on a six-monthly basis, in sync with the Eskom board meetings and

their mandate is to independently review Koeberg's Nuclear Safety performance and present their findings/recommendations directly to the Eskom board.

7. NNR feedback on PSIF Deputy Chairperson position – Mr Gino Moonsamy (NNR)

Summary

- Mr Moonsamy provided a brief background on the objectives of the PSIF. He applauded the Koeberg PSM for fulfilling the PSIF mandate, by sharing information pertaining to nuclear safety, emergency planning and radiation safety transparently.
- He reiterated that the PSIF is a legislated forum governed by the NNR Act No 47 Section 26(4) of 1999 which requires that the NNR Board appoints both the PSIF Chairperson and Deputy Chairperson. Mr Moonsamy announced the appointment of Mrs Christa Kleynhans to the position of Deputy Chairperson of the Koeberg PSIF and confirmed her acceptance of the position.
- In his conclusion, Mr Moonsamy commended the Chairperson, Eskom and members of the forum on the improvement in the standard of the PSIF and the improved manner in which the meeting has been conducted. This gives the NNR the assurance that the needs of the members of the public and the mandate of the forum have been fulfilled.

8. Integrated Koeberg Nuclear Emergency Plan: Public notification and road blocks – CoCT Law Enforcement (Mr Charles van Vuuren) and Traffic Services (Mr Arno Schröner)

Summary

Mr Arno Schröner and Mr Charles van Vuuren shared the key functions of the CoCT Law Enforcement and Traffic Services in the event of a nuclear emergency at KNPS.

They are as follows:

- Public notification and implementation of instructions from the CoCT Disaster Risk Management Coordination Centre.
- Traffic management and law Enforcement
- Broadcasting of key evacuation information by means of vehicles equipped with a public address system, more especially in farm areas and informal settlements.
- Implementation of road blocks and assisting with evacuations, by providing assistance to SAPS and law enforcement agencies.
- Coordinating and escorting busses to Mass Care Centres.
- Ensuring maintenance of law and order in the Mass Care Centres.

Question by Mr Mayhew

Mr Mayhew asked whether the Traffic Services officials are adequately informed and aware of the expectations in the event of a nuclear emergency.

Answer by Mr Schrönen

Mr Schrönen responded that it is their core function in an emergency.. He added that they have worked well with Eskom with regard to educating Traffic Services staff about nuclear. This is an ongoing process so as to cater for new recruits as well.

Question by Mr Mayhew

Mr Mayhew asked whether officials at the Parklands SAPS office would be able to answer questions with regard to their function in a nuclear emergency should he ask them.

Answer by Mr Schrönen

Mr Schrönen said that he cannot answer for SAPS but that he could answer for Traffic Services. They (Traffic Services) would be able to answer questions relating to the basic requirements of their function but not with regard to the technical side of the function.

Comment by Mr Trollope

Mr Trollope added that Eskom has been paying attention to what comes out of the KPSIF meeting, hence, in a combined effort with Disaster Management, Eskom now has a dedicated person joining Mr Van Rensburg from the CoCT in visiting various institutions (i.e. SAPS stations, schools etc.) once a week to educate and provide awareness training.

Response by Mr Mayhew

Mr Mayhew responded that this is a positive step because if people do not know what they're doing they won't be able to perform their jobs. He added that their priorities might change if their family is involved.

Comment by Mr Schrönen

Mr Schrönen responded by saying that he can guarantee that Traffic Services will confidently carry out their duties when called upon in an emergency.

Comment by Mr Trollope

Mr Trollope added that he can vouch for the Traffic Services. Eskom trains approximately 250 traffic officers per year who participate in the annual NNR Station Exercise where they are trained with the dosimetry that they are required to wear in case of an emergency at Koeberg. He added that he is satisfied that they are aware of their duties.

Question by Chairperson

The Chairperson made a request that the word "Koeberg" should not be associated with the word "explosion". She further explained that the design of Koeberg is such that an explosion cannot take place.

Question by Mr Mayhew

Mr Mayhew asked how Traffic Services will deal with residents who want to go home to fetch their families during a nuclear emergency, as this will cause vehicle accidents.

Response by Mr Schrönen

Mr Schrönen responded that he is confident that they can handle this type of situation. The situation will be assessed with the guidance of the Disaster Management team.

Question by Mr Mayhew

Mr Mayhew asked about the possibility of road accidents and deaths.

Answer by Mr Schrönen

Mr Schrönen responded that this is a possibility in any situation, and that should something happen, they plan around this in order to allow for traffic to continue flowing as soon as possible.

Comment by Mr Pillay

Mr Pillay added that the CoCT Traffic Evacuation Model (TEM) makes provision for different traffic scenarios such as one-way, two-way and roadblocks.

Comment by Chairperson

The Chairperson commented that presentations around such questions have been done before and that she finds it reassuring that the SAPS and Traffic Services are working together with Eskom.

9. Environmental Management Plan (EMP) for maintenance dredging of the water intake basin at Koeberg – Ms Vicky Stevens – Worley Parsons (RSA) Pty Ltd

Summary

The EMP outlines the procedures that control the manner in which Koeberg and the appointed Dredging Contractor/Operator undertake the various activities associated with maintenance dredging of the Koeberg Cooling Water Intake Basin (KCWIB). The objective is to ensure the implementation of the Koeberg Nuclear Power Station's (KNPS) Safety Health, Environmental and Quality (SHEQ) Policy during these activities.

The EMP has been developed to identify and address the requirements for the management and mitigation of environmental impacts of the maintenance dredging and associated activities through all the phases (i.e. mobilisation, operation and demobilisation) of the project.

The presentation provides stakeholder with the opportunity to raise any issues related to the project as part of the public participation process. The final EMP is to be submitted to the Department of Environmental Affairs for approval.

The main function of the cooling water intake basin is to:

- Acts as a sediment settling basin.
- Allows Koeberg to withdrawal sediment free seawater for power station cooling.
- The seawater needs to be sediment free to prevent abrasion to the:
 - The abstraction pumps.

- The condenser tubes
- Settling of sand in plant systems

Why is dredging required?

- Approximately 132 000m³ of sediment is dredged annually from the KCWIB in order to maintain the depth of the basin. The purpose of the EMP is to ensure this maintenance dredging is in line with Eskom's Environmental policy-striving towards zero harm to the people, plant and the Environment.
- Dredging is a maintenance activity required at Koeberg, as the rate of sedimentation within the intake basin is on average approximately 132 000 m³ per year (due to the high level of wave energy on this coast, and the high cooling water flow rates).
- The inner basin is permitted to accumulate 300 000 m³ to 400 000 m³ of sediment.
- The inner basin is surveyed regularly to ensure that the amount of accumulated sediment on the bottom of the basin does not exceed the permitted amount.
- The surveys also show the priority areas of the basin that need to be dredged.
- The dredge spoil is deposited south of the outlet basin through a pipeline into the surf zone.
- Acts as a by-pass system.

Question by Mr Mayhew

Mr Mayhew asked whether dredging is done only once a year.

Answer by Ms Stevens

Ms Stevens responded that it is conducted as and when needed. The threshold for sedimentation in the intake basin is the indicator that is used to determine when dredging is required.

Question by Mr Mayhew

Mr Mayhew asked what the timescale is.

Answer by Mr Trollope

Mr Trollope responded that it varies as dredging could take up to six months.

Comment by Mr Nicholls

Mr Nicholls added that the amount of sand that is allowed to accumulate in the basin equivalent to the size of a super tanker of sand.

Question by Mr Mayhew

Mr Mayhew asked whether hot water is returned into the basin.

Answer by Ms Stevens

Ms Stevens responded that it is not returned to the intake basin but is discharged through the outfall.

Comment by Mr Jeannes

Mr Jeannes added that the design is such that the heated water does not return into the intake basin.

Question by Chairperson

The Chairperson asked who the contact person was for the long-term monitoring programme that takes place at Ou Skip.

Response by Mr Jeannes

Mr Jeannes responded that this is on a contractual basis with the relevant department at UCT. He elaborated that there isn't a permanent person at the facility however every six months the team goes to the beach area near the Koeberg outfall and measure the amount of living organisms (mussels: indicative species) per square metre, as this gives an indication of the trends in the environment.

Additional Note: The contract with UCT has expired. Koeberg is in the process of getting a contract in place with the University of Stellenbosch (US) for the long-term monitoring.

Comment by Ms Stevens

Ms Stevens added that currently the long-term monitoring programme is used to monitor temperature. It is her recommendation that it be used in conjunction with the dredging records, as Ou Skip is located 800 m to the south of the dredge spoil disposal site. The long-term monitoring programme's data can therefore be used in conjunction with the dredging records to monitor the impact of the deposition of the dredge spoil on Ou Skip's sandy beach.

Question by Mr Van Vuuren

Mr Van Vuuren asked whether there is a possibility for the warm water to drift to the Melkbosstrand Beach.

Answer by Mr Trollope

Mr Trollope responded that there is approximately a 9°C difference in water temperature directly at the outfall. When the warm water leaves the outfall its heat dissipates within approximately a half kilometre as it mixes with the water in the ocean.

Comment by Mr van Vuuren

Mr Van Vuuren added that during the bolt incident at Koeberg, it was reported that the warm water had spread to Melkbosstrand Beach.

Answer by Mr Featherstone

Mr Featherstone explained that Koeberg has an operating limit where the water is not allowed to be warmer than 23°C. Koeberg has come close to shutting down twice in the last five years due to the water temperature being close to reaching that limit. The increase in temperature beyond the limit is as a result of the wind direction, which is impacted by the weather conditions. If the wind direction remains in a North Westerly direction for a prolonged period at the wrong time of the year, it keeps the warm water in the basin. This is as a result of the weather conditions, not the output from Koeberg.

Comment by Mr Nicholls

Mr Nicholls said that there is no effect on the ocean. A lot of studies have been conducted with the new build plant, even those five times the size of Koeberg, the change in temperature is trivial when compared to normal variations.

Request by Chairperson

The Chairperson suggested that a representative from the UCT Marine Department address the PSIF members at one of the future KPSIF meetings.

Response by Mr Phidza

Mr Phidza responded that he will engage them and check their availability for the March or June 2014 PSIF Meeting.

10. General**Comment by Chairperson**

The Chairperson thanked Mr Ian Trollope and Mr Jan Norman from Eskom, for their assistance with the Melkbosstrand Neighbourhood Watch. Due to their involvement Eskom Koeberg has allowed for a repeater to be put on the weather station to allow radios in Melkbosstrand to better “communicate” with each other. This will greatly assist SAPS to improve radio communication when doing their patrols. As a result the network will be audible up to the N7.

Question by Mr Brown

Mr Brown said that as a long term resident of Duynfontein, he would like to know why the Duynfontein Beach was closed. According to him the response from Eskom thus far had been unsatisfactory. He added that the beach has been open for 30 years and was closed without warning. He requested detailed insight into why it was closed.

Response by Chairperson

The Chairperson responded that this question was answered in a previous meeting but stated that it is good for these questions to resurface as it gives more people insight into the issue.

Comment by Mr Brown

Mr Brown responded that although the question was answered, the response was not detailed enough.

Response by Mr Featherstone

Mr Featherstone indicated that if there is a request, Koeberg should honour it. He added that the closure was advertised in local media and brought to the PSIF before the beach was closed.

Question by Mr Mayhew

Mr Mayhew asked whether a representative from the ambulance services can give a presentation about their role in a nuclear emergency at the next KPSIF meeting.

Response by Mr Phidza

Mr Phidza acknowledged the request and responded that Eskom will engage the CoCT and based on their availability a decision will be made whether to invite them for the March or June 2014 meeting.

EP Calendar 2014 – update

The Chairperson informed the KPSIF members that the Koeberg Emergency Plan Calendars were in print and would be distributed to residents during the month of November 2013. She requested that members read and keep their copy as it contains key information pertaining to the Koeberg Emergency Plan and actions required from them.

11. Date of the next meeting

The next KPSIF meeting is scheduled to take place in the Nuclear Auditorium, Bulk Stores at 19:00 on 27 March 2014.

12. Possible/proposed agenda points for next meeting

- UCT marine life research presentation
- The role of Ambulance Services in the Koeberg Emergency Plan
- Sea Shore Act presentation and its impact
- Koeberg quarterly feedback – focus on nuclear safety, health, environment and plant
- Update on Koeberg's response to the Fukushima incident.
-

13. Closure

The PSIF meeting was adjourned at 20:45.

APPENDIX E4: TABLETALK ADVERTISEMENT – 12 FEBRUARY 2014

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Tabletalk INFORMATION i

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Moral high ground

Len Steele, Table View

I respond to your article ("Wrong arm of the law", Tabletalk, February 5) and would like to add my angle on this incident. What was David Paarman doing with dagga in his possession? Is he aware that this is a criminal offence?

Besides this, according to the article, he has a long list of contraventions.

Although I do not condone high-handed acts by the SAPS, if it

were not for characters like David, they would not have to waste their time keeping puny law breakers in line but rather spend time investigating rapes, burglaries and murders that affect law-abiding citizens.

More snail mail travails

Jack Gelb, Bothasig

In response to Betty Rolfe's letter concerning the postal delivery service, I concur 100%, but can assure you, Betty, that the problem is not limited to Table

View. I reside in Bothasig and also have friends living in the UK and have lost count of the times that letters have either not reached me or have been severely delayed.

For example, I received a Christmas card from a friend living in London on January 6 this year.

The card was posted in London around December 10.

This is not limited to mail from overseas, I often receive local mail that takes up to three weeks to reach me.

Enquiries to the postal delivery offices have thus far proved fruitless.

To have to put up

with this sub-standard "service" is both frustrating and creates a poor image of our

country to friends and family living abroad. It is high time that the SA Post Office got

their act together. More letters on page 10



Have your say
SMS TALK with your message, name and area you live in to 365413 (32263) SMSes charged at R1 each

Wrong arm of the law

Regarding "Wrong arm of the law". Thank you, Clement Deane, for that bit of reporting. It's so easy as a reader to get lost in the emotion that accompanies news reporting and the spin that the reporter is putting on the story. So in an attempt to obtain clarity, would it be fair to summarise the article as being about a man who was breaking the law, carrying an illegal substance: drugs, (that is the scourge of our society and is destroying many young lives continuously), and was not treated well by the arresting officers who were enforcing the law, protecting innocent citizens (but supposedly using unnecessary force in the process)? Really? – Robin, Table View.

Summer Greens

Those people complaining about the state of Summer Greens, why do you not attend monthly meetings then you will know who to contact instead of 'blaming' Joy McCarthy for everything – Sandra E, Summer Greens.

More SMSes on page 10

Weekend weather

Friday

Min: 18°C
Max: 33°C
Hi: 3.12am; 3.23pm
Lo: 9.17am; 9.26pm

Saturday

Min: 18°C
Max: 34°C
Hi: 3.40am; 3.52pm
Lo: 9.46am; 9.54pm

Sunday

Min: 18°C
Max: 34°C
Hi: 4.07am; 4.21pm
Lo: 10.14am; 10.22pm

www.weather.co.za and www.sahls.co.za

COMMUNITY NOTICE: Chevron Refinery Scheduled Maintenance and Safety Inspection



Extensive process contributes to safe, reliable operation.

Dear Neighbours,

The Chevron Cape Town Refinery in Milnerton will undergo a scheduled maintenance and safety inspection from **16 February 2014 until mid March 2014**.

Chevron is completely committed to the safety of our neighbours and employees, and this project forms part of maintaining the safe and reliable operation of the refinery.

Please be advised that during the maintenance and safety inspection period, the following may occur:

- On certain occasions, higher noise levels may occur. We have made every effort to ensure that these activities are kept to a minimum.
- With the systematic shutting down and depressuring of the maintenance unit, occasional visible flaring and stack emissions (black smoke) can be expected over the first four days and then again, as operations are started up. Chevron places the highest priority on the health and safety of its employees and the communities in which it operates and takes every possible precaution to mitigate unnecessary or unplanned emissions.
- All refinery emissions are independently monitored and the refinery adheres to the South African environmental authorities' guidelines and legislation as well as the more stringent World Health Organisation (WHO) guidelines for emissions. Ambient air quality monitoring around the refinery will continue as normal during this period.

We thank you for your understanding during this important activity.

Should you like further information relating to the scheduled maintenance and safety inspection, you can contact **Donna Fata at Chevron on 021 508 3911**.

Yours sincerely

Doug Pottenger

General Manager Refining – Chevron Cape Town Refinery

MEDICLINIC

MILNERTON

MEDICLINIC WELCOMES DR ANTONIE ROD

Mediclinic Milnerton welcomes Dr Antonie Rod, an independent specialist physician, back to the Milnerton community.

For appointments, please call his rooms on 021 551 2798

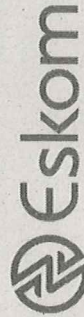
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Public Participation Process

Environmental Management Plan:

Maintenance Dredging –

Koebeg Nuclear Power Station

Eskom Reference No EM 1.1/01/2013

Notice is hereby given of Eskom's intention to develop an Environmental Management Plan (EMP) for the various activities associated with maintenance dredging of the Koebeg Cooling Water Intake Basin (KCWB) at Koebeg Nuclear Power Station. The EMP will outline procedures which Eskom and the appointed dredging contractor/operator shall undertake with regard to the various activities associated with maintenance dredging of the KCWB.

In terms of the National Environmental Management Act (NEMA), 1998 (Act No 107 of 1998), as amended, and the Environmental Impact Assessment Regulations of August 2010, this activity requires an EMP in terms of Activity 18 of Listing Notice 1 (GN No R. 544).

18: "...the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock or more than 5 cubic metres from ... (ii) thesea ...excluding where such infilling, depositing, dredging, excavation, removal or moving ... is for maintenance purposes undertaken in accordance with a management plan agreed to by the relevant environmental authority."

The draft EMP was presented at the Koebeg Public Safety Information Forum (PSIF) on 28 November 2013. The final EMP will be submitted to the Department of Environmental Affairs for approval.

Opportunity to participate

Stakeholders are invited to participate in a public participation process. For ease of access, the EMP is available for public comment at the following locations:

- Eskom website: <http://www.eskom.co.za/Whateveding/>
- Electricity Generation/Koebeg Nuclear Power Station Documents 2013/11/4, DraftDredgingEMP-Rev0g.pdf.
- Koebeg Public Library - Merchant Walk, Durnfontein, Melkbosstrand (tel +27 21 553 4009).
- Table View Public Library - Birkhead Road, Table View (tel +27 21 557 8995).

All comments should include the reference number (EM 1.1/01/2013), your name and contact details, and be submitted in writing by 14 March 2014. For further information, please contact:

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