

Compiled by Aurecon Namibia (Pty) Ltd and SLR Environmental Consulting Namibia (Pty) Ltd



## SOCIAL AND ENVIRONMENTAL MANAGEMENT PLAN: Mining of the Z20 Uranium Deposit - Infrastructure Corridor

Prepared in conjunction with the Social and Environmental  
Impact Assessment for the Proposed Mining of the Z20  
Uranium Deposit

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# CONTENTS PAGE

<b>ACRONYMS AND ABBREVIATIONS</b>	<b>IV</b>
<b>BACKGROUND AND INTRODUCTION</b>	<b>1</b>
<b>BACKGROUND</b>	<b>1</b>
History and contextualisation	1
<b>INTRODUCTION</b>	<b>1</b>
Construction Phase	3
Operational Phase	3
Decommissioning and Closure	3
Report Structure	3
<b>PLANNING AND STATUTORY REQUIREMENTS</b>	<b>5</b>
<b>PLANNING CONTEXT</b>	<b>5</b>
<b>STATUTORY REQUIREMENTS</b>	<b>5</b>
Environmental Management Act	6
Mining Legislation	7
Atomic Energy and Radiation Protection Act	7
<b>DESIGN PHASE</b>	<b>8</b>
<b>CONSTRUCTION PHASE</b>	<b>20</b>
<b>ORGANISATIONAL FRAMEWORK</b>	<b>20</b>
Site Organisational framework	20
Roles and responsibilities	20
Monthly Project Meetings	21
Stakeholder Feedback	21
Appointment and brief of the Independent Environmental Auditor	21
Appointment and brief of Rössing Uranium’s Environmental Officer	22
Appointment and brief of the Contractor’s Environmental Officers	22
Management tools	23
Considerations at Tender Adjudication	23
Contractor’s Social and Environmental Policy	23
Compliance with health, safety and environmental laws, policies and standards	24
OHSEC Mitigation Table and Bill of Quantities	25
Method statements	25
Task-specific Risk Assessments	25
OHSEC Awareness	25
Worker HIV/AIDS Awareness Programme	25
OHSEC Induction Training	26
Toolbox talks	26
Signage and Information Posters	26
Code of Conduct Booklet for site workers and visitors	26
OHSEC monitoring	26
OHSEC reporting	27

OHSEC audits	28
Penalties for non-compliance	29
Withholding Payment	29
Removal from site	29
Making Good on Environmental Damage	29
Suspension of Works	29
OHSEC Performance Incentives	29
<b>CONSTRUCTION PHASE OHSEC MITIGATION TABLE</b>	<b>30</b>
<b>OPERATIONAL PHASE</b>	<b>66</b>
<b>ORGANISATIONAL FRAMEWORK</b>	<b>66</b>
<b>INFRASTRUCTURE CORRIDOR RELATING TO THE MINING OF Z20 SATELLITE PIT SEMP AND RÖSSING URANIUM'S HSE</b>	<b>68</b>
Rössing Uranium's HSE Policy	69
Rössing Uranium's HSE Hazards / Aspects Register	69
Key Stages in the HSE management system	70
Competence, Training and Awareness	70
Communication and reporting	70
Operational Controls	71
Organisational Framework	72
Managing Director	72
General Managers	72
HSEC Manager	72
Departmental Manager	72
Environmental Superintendent	72
Line Superintendent	73
Environmental Coordinator	73
Superintendent HSE Compliance	73
HSE Officer	73
<b>OPERATIONAL PHASE OHSEC MITIGATION TABLE</b>	<b>74</b>
<b>CLOSURE PHASE</b>	<b>85</b>
<b>DECOMMISSIONING PHASE MITIGATION STRATEGY</b>	<b>85</b>
Rössing Uranium's approach to Biodiversity Offsets	85
Closure planning at Rössing	85
Closure provisions	85
New projects	86
Conceptual closure strategy of the Z20 infrastructure corridor	86
Overland conveyor	86
Powerline	87
Diesel supply line	87
Water supply pipeline	87
Access road	87
<b>DECOMMISSIONING PHASE OHSEC MITIGATION TABLE</b>	<b>89</b>
<b>BIBLIOGRAPHY</b>	<b>93</b>

**ANNEXURES****94****LIST OF FIGURES**

<b>Figure 1: Overall layout of the components approved in the previous SEIA and components being assessed for the mining of the Z20 uranium deposit – including the linear infrastructure</b>	<b>2</b>
<b>Figure 2: Role of the SEMP in the broader hierarchal strategic context</b>	<b>5</b>
<b>Figure 3: Organisational Framework for Ensuring OHSEC Compliance during Construction</b>	<b>20</b>
<b>Figure 4: Sequencing and structure of an ISO 14001 Environmental Management System</b>	<b>68</b>
<b>Figure 5: Overview of the HSE management system in effect at Rössing Uranium</b>	<b>69</b>
<b>Figure 6: HSE management system reporting Structure</b>	<b>71</b>

**LIST OF TABLES**

<b>Table 1: Design Phase OHSEC Mitigation Measures</b>	<b>8</b>
<b>Table 2: Key Roles of the Various OHSEC Posts</b>	<b>21</b>
<b>Table 3: OHSEC Reporting Responsibilities</b>	<b>28</b>
<b>Table 4: Construction Phase OHSEC Mitigation Measures</b>	<b>30</b>
<b>Table 5: Operational Phase OHSEC Mitigation Measures</b>	<b>74</b>
<b>Table 6: Decommissioning Phase OHSEC Mitigation Measures</b>	<b>89</b>

# ACRONYMS AND ABBREVIATIONS

<b>Aurecon</b>	Aurecon South Africa (Pty) Ltd
<b>GHG</b>	Greenhouse gas
<b>HAZOP</b>	Hazard and Operability Study
<b>HIV/AIDS</b>	Human Immunodeficiency Virus / Acquired Immune Deficiency Syndrome
<b>HSE</b>	Health, Safety and Environment
<b>ISO</b>	International Standards Organisation
<b>km</b>	Kilometre
<b>km/h</b>	Kilometre per hour
<b>km<sup>2</sup></b>	Square kilometre
<b>kV</b>	Kilovolts
<b>LAeq</b>	Equivalent continuous sound which would contain the same sound energy as the time varying sound
<b>LED</b>	Light Emitting Diode
<b>m</b>	Metre
<b>m<sup>2</sup></b>	Square metre
<b>MET</b>	Ministry of Environment and Tourism
<b>MET:DEA</b>	Ministry of Environment and Tourism: Department of Environmental Affairs
<b>MME</b>	Ministry of Mines and Energy
<b>OHS&amp;E</b>	Occupational Health, Safety and Environment
<b>OHSEC</b>	Occupational Health, Safety, Environment and Community
<b>PM<sub>10</sub></b>	Particulate Matter with an aerodynamic diameter of less than 10µ
<b>PPE</b>	Personal Protective Equipment
<b>Rössing Uranium</b>	Rio Tinto Rössing Uranium Limited
<b>MSDS</b>	Material Safety Data Sheets
<b>SEIA</b>	Social and Environmental Impact Assessment
<b>SEMP</b>	Social and Environmental Management Plan
<b>SO<sub>2</sub></b>	Sulfurdioxide
<b>SOx</b>	Sulfur oxides
<b>VOCs</b>	Volatile Organic Compounds

# BACKGROUND AND INTRODUCTION

## BACKGROUND

### HISTORY AND CONTEXTUALISATION

Rio Tinto Rössing Uranium Limited (Rössing Uranium) has operated an open pit uranium mine in the Erongo Region of Namibia since 1976. There are currently two uranium mines operating in Namibia, Rössing Uranium and Langer Heinrich Uranium. There are various other companies carrying out prospecting and exploration of uranium in Namibia. Exploration licenses are issued by the Namibian government. Rössing Uranium is a significant and growing long term supplier of uranium to the world's nuclear power industry and is currently the second largest supplier to the world's iron ore.

In the long term Rössing Uranium sees a bright future ahead with nuclear power continuing to grow as a viable means of clean energy. The nuclear power industry is growing, and is being recognised as a clean, efficient, carbon free source of power, which can assist in reducing global warming. Rössing Uranium therefore remains focused to both expanding their operations and also to extending their mine life beyond 2023.

Rössing Uranium is continuing its planning for expansion options but, like all growth projects across Rio Tinto, they are reviewing the timing of any capital commitments. Adaptability is key in the current market environment, so the company is trying to preserve as many options as possible.

The motivation for the proposed mining project is therefore economic in nature. The Z20 ore deposit is a substantial discovery of the recent exploration activities Rössing has conducted in the southern section of its ML28 Mining Licence Area. The Z20 resource is similar in size to that of Husab's Zone 1 or 2 and will constitute a significant addition to the economic value of Rössing Uranium's ore inventory.

The mining project has the potential to benefit the country, society and the surrounding communities both directly (i.e. in terms of wages, taxes, etc.) and indirectly (i.e. in terms of procurement of goods and services, increased spending power of employees as a result of the creation of new jobs at the mine, etc.).

The maximum extent of the envisaged project would entail, in summary, the following:

- Mining of the Z20 ore body;
- Disposal of Z20 waste rock onto the planned waste rock dump;
- Establishment of an infrastructure corridor across the Khan River housing an RopeCon® aerial conveyor, road and other services (water and fuel supply);
- Amendment of the existing Acid Plant Environmental Clearance;
- Processing plant modifications;
- Changes to the present Tailings Storage Facility; and
- Establishment of a new High Density Tailings Storage Facility on the Rössing Dome.

Consequently, the associated social and environmental issues are being assessed in a Social and Environmental Impact Assessment (SEIA), focusing on specific mining project components.

## INTRODUCTION

The purpose of this Social and Environmental Management Plan (SEMP) is to ensure that key Occupational Health, Safety, Environment and Community (OHSEC) aspects and mitigation measures as identified in the Scoping Report are implemented during the life cycle of the proposed mining activities and components by identifying detailed management and mitigation measures. These management aspects and mitigation measures have been derived from desktop studies as part of the SEIA, plus detailed specialist studies supported by industry best practice, case studies, known site-specific

biophysical characteristics, constraints and limitations, and issues and concerns raised by the relevant authorities and stakeholders.

The SEIA Team, in liaison with Rössing Uranium, established during the initiation/screening phase that the infrastructure corridor can be subject to a Scoping Phase only.

The scoping phase will therefore include an assessment of the proposed infrastructure corridor and a separate SEMP, relating to the infrastructure corridor, (this document), which will enable MET to make a decision on this part of the project after the scoping phase already.

The SEMP is intended to serve as a management guideline to ensure responsible OHSEC management of activities on a day-to-day basis for the entire project life cycle. The SEMP is also aimed at addressing concerns raised by environmental interest groups, the general public, and authorities with regard to responsible management, the control of these activities and ensuring that all interests are considered and catered for. This SEMP is submitted together with the Scoping Report to allow authorities to take an informed decision when considering the application and also to review and, if required, have input in the manner in which the infrastructure corridor and associated activities are managed into the future.

The infrastructure corridor includes the following linear infrastructure (Refer to Figure 1 below):

- Aerial conveyor system;
- Access road;
- Water supply line;
- Diesel supply line; and
- Power distribution.

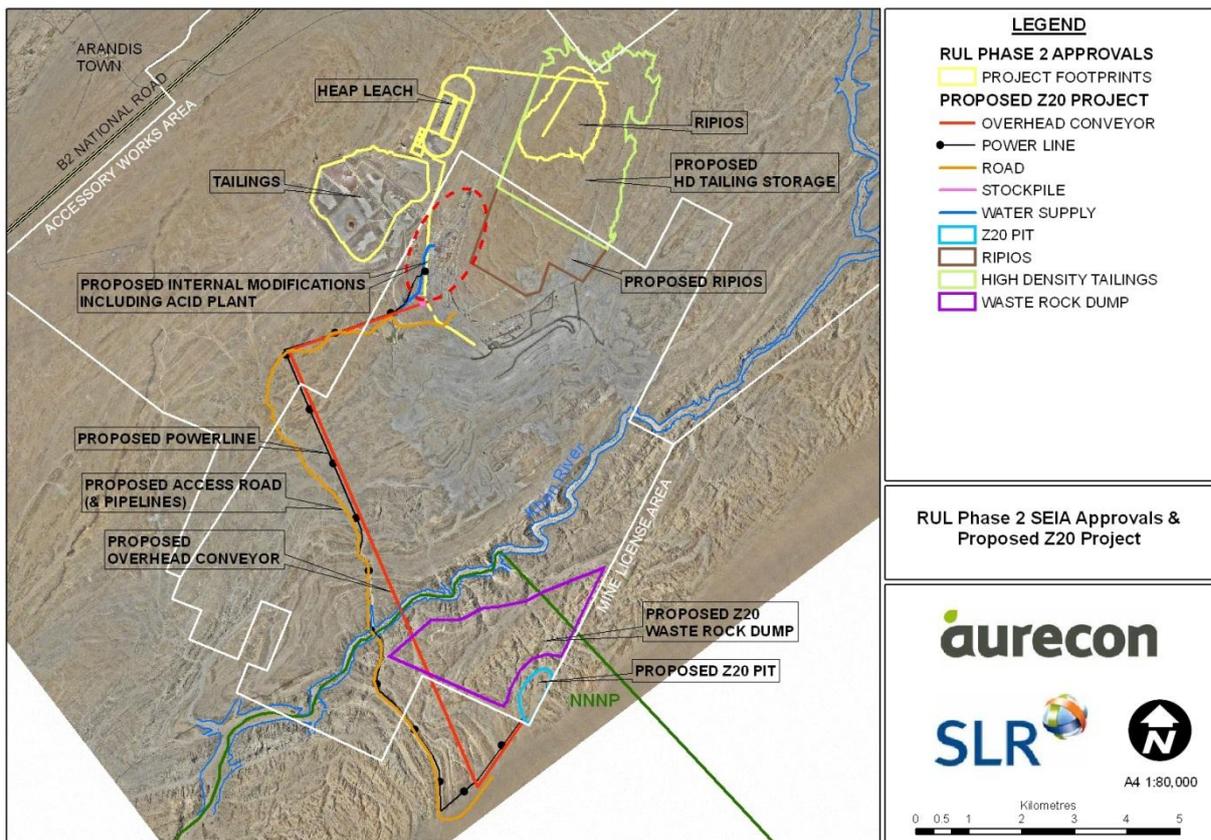


Figure 1: Overall layout of the components approved in the previous SEIA and components being assessed for the mining of the Z20 uranium deposit – including the linear infrastructure

The objective of the SEMP is to serve as a working document to assist Rössing Uranium in managing their day-to-day activities, as they relate to the infrastructure corridor, in an environmentally responsible manner. The SEIA addresses the following general social and environmental aspects associated with the infrastructure corridor relating to the mining of the Z20 Uranium deposit:

- Socio-economic impact assessment;
- Visual impact assessment;
- Air quality impact assessment;
- Noise impact assessment;
- Public dose assessment (Radiation);
- Surface water assessment;
- Biodiversity assessment; and
- Archaeology assessment.

The SEMP addresses four distinct temporal phases, namely design, construction, operational and decommissioning phases, each with specific mitigation measures identified relating to the key social and environment aspects of each phase and are presented under separate sections and aims to improve the functionality as a working document.

This “stand-alone SEMP” that was developed for the infrastructure corridor (relating to the mining of the Z20 Uranium deposit) can at a later stage be incorporated into the Overarching Rössing Uranium SEMP.

## **CONSTRUCTION PHASE**

Construction activities include actions (e.g. blasting, earthworks, foundation preparation, construction of buildings) undertaken during the establishment and preparation of the site for the linear infrastructure. The construction phase will commence once the economic feasibility of the project has been proven.

## **OPERATIONAL PHASE**

The operational phase is the period of time that the linear infrastructure will be used as part of the mining and processing operations. It is anticipated that the linear infrastructure will be operational simultaneously to the start of mining at Z20.

## **DECOMMISSIONING AND CLOSURE**

The decommissioning phase can be described as the inverse of the construction phase. The demolition and removal activities are followed by rehabilitation of the sites. Relevant activities are those related to the after care and maintenance of remaining structures.

## **REPORT STRUCTURE**

This SEMP has adopted the structure used previously for the SEMP incorporated in the Rössing Uranium Mine Expansion SEIA Phase 1 and Phase 2 and the Exploration Drilling SEMP's Phase 1 and Phase 2<sup>1</sup>, since these were found to be acceptable to both Rössing Uranium and the Ministry of Environment and Tourism: Directorate Environmental Affairs (MET:DEA). The document is divided into the following main sections, as described below:

**Section 1: Planning and Statutory requirements** provides a summary of the planning context in which the project has been undertaken and a summary of the relevant pieces of legislation informing the legal process requirements.

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<sup>1</sup>Exploration SEMP's were compiled for mineral exploration activities occurring to the south of the Khan River, where the Rössing Uranium Mine License Area overlaps with the Namib Naukluft Park.

**Section 2: ORGANISATIONAL FRAMEWORK** deals with the delegation of duties to ensure accountability and the effective implementation and monitoring of this SEMP. Matters relating to the integration of the linear infrastructure associated with the Z20 mining activities into the existing HSE management system are also described. The objective is to measure, record and demonstrate on-going compliance with relevant legislation and Rössing Uranium company policies and procedures regarding OHSEC management through implementation of the specified OHSEC mitigation measures.

**Section 3: DESIGN PHASE** focuses on the management of social and environmental impacts associated with the detailed design and planning phase for the various components of the linear infrastructure associated with the mining of the Z20 Uranium deposit. This section describes the OHSEC mitigation measures that require consideration and implementation in the design phase, and relates to the operational phase of the components in that provision has to be made in the design to accomplish certain operational requirements.

**Section 4: CONSTRUCTION PHASE OHSEC MITIGATION TABLE** focuses on the management of social and environmental impacts associated with the construction or preparation phase of the various components of the infrastructure corridor. This section describes the use and implementation of the OHSEC mitigation measures and details construction phase administrative and contractual arrangements. These mitigation measures deal with general OHSEC issues typical of construction projects as well as those specific to the respective infrastructure corridor components included in the Scoping Report. The mitigation measures are presented in a table format and are written in a form and language that is consistent with tender and contract documentation typical of engineering contracts, thus allowing for integration into the tender documents and technical specifications. This integration into the tender and technical specifications is of crucial importance, since compliance with the conditions of the authorising authority as well as the various non-statutory mitigation measures and OHSEC best practice becomes contractually binding on the successful contractors. By entering into contract with Rössing Uranium, the Contractor is obligated to comply with the various requirements, as well as making provision for the necessary budgetary provisions in achieving such compliance in the tendered amount.

**Section 5: OPERATIONAL PHASE OHSEC MITIGATION TABLE** deals with OHSEC management aspects associated with the operation of each of the infrastructure corridor components. This section aims to establish an effective compliance monitoring structure to be integrated into Rössing Uranium's HSE management system, which is consistent with the ISO:14001 and ISO:18001 management systems. The objective is to measure, record and demonstrate on-going compliance with relevant legislation and Rössing Uranium company policies regarding OHSEC management through implementation of the specified OHSEC mitigation measures, best practice and actions required to ensure that on-going operations of the various project components are carried out in a controlled and responsible manner and that potential negative social and environmental impacts identified in the SEIA are minimised.

**Section 6: DECOMMISSIONING PHASE MITIGATION STRATEGY** provides potential OHSEC considerations that should be revisited prior to the decommissioning phase for each of the linear infrastructure components. This section is not prescriptive due to there being no absolute certainty regarding the future timing of the decommissioning phase and the fact that a Closure Management Plan (Rio Tinto, 2011) is in place. The latter will require updating to address Rössing Uranium's mining of the Z20 uranium deposit and the associated linear infrastructure once the projects area approved.

# PLANNING AND STATUTORY REQUIREMENTS

## PLANNING CONTEXT

As a significant contributor to the Namibian economy, Rössing Uranium's role in local and regional economic development requires that they demonstrate adherence to sound environmental practices. The decision to pursue the possible mining of the Z20 Uranium deposit and the associated infrastructure corridor thus needs to be underpinned by informed strategic planning. To this end, the hierarchy of policy, planning and procedural documentation seen in Figure 2 reflects the point of departure for the proposed project and the role of the SEMP is also represented within this broader strategic context.

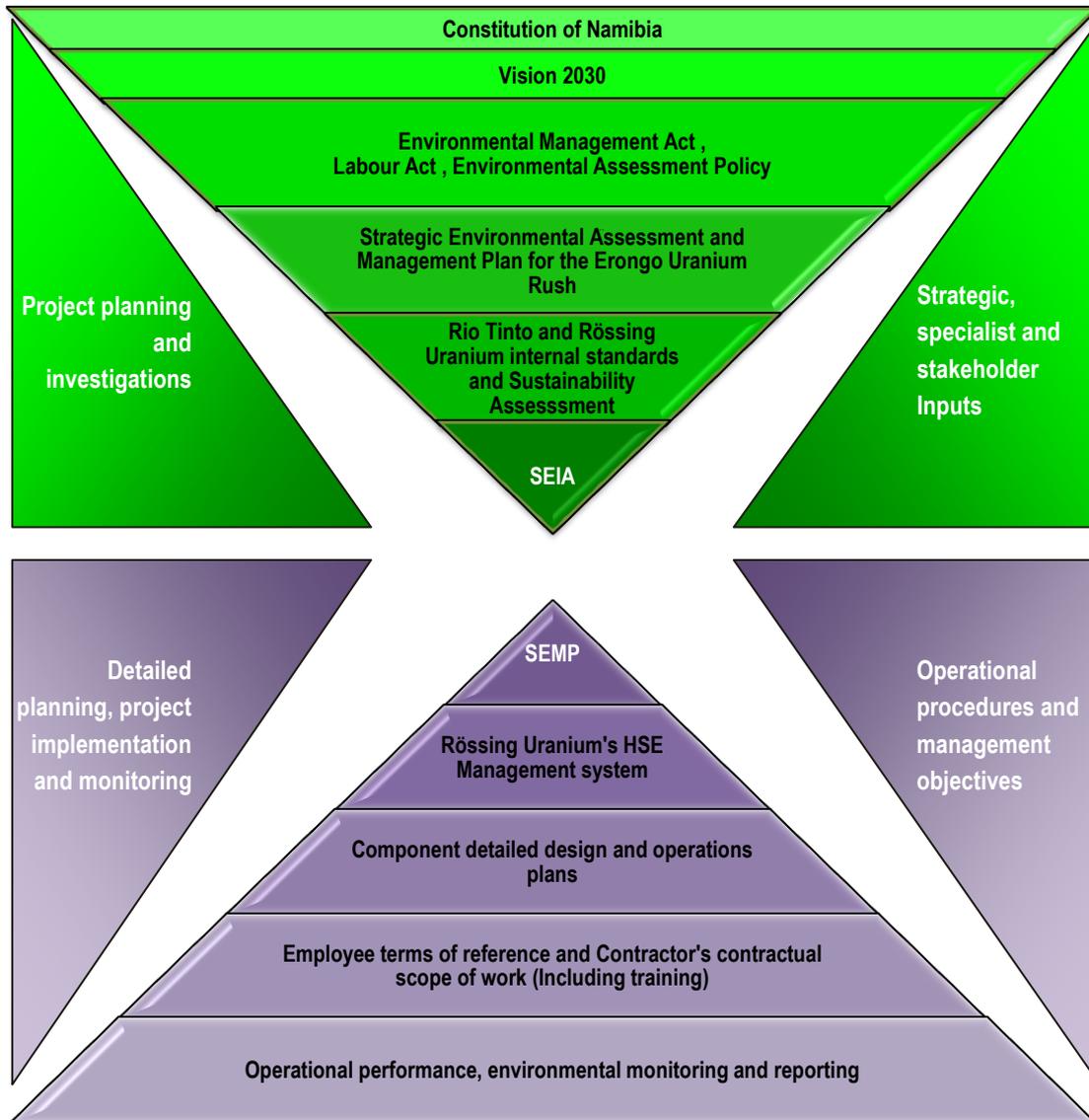


Figure 2: Role of the SEMP in the broader hierarchal strategic context<sup>2</sup>

## STATUTORY REQUIREMENTS

In order to protect the social and biophysical environment and ensure that Rössing Uranium's proposed project is undertaken in a responsible manner. The following additional pieces of existing or pending legislation and conventions may have some bearing on the proposed project:

<sup>2</sup>The diagram flows from top to bottom in the shape of an hour glass, showing the various stages of planning, starting with the broadest level planning informants and culminates in the SEIA. This SEMP is the point of departure for the implementation of the said planning process. The triangles to the side indicate the general roles and responsibilities associated with these project phases.

**The socio-economic environment**

- Atomic Energy and Radiation Protection Act (2005)
- Communal Land Act (2002)
- Decentralisation Policy (1998)
- Hazardous Substances Ordinance (1956)
- International Atomic Energy Agency Non-proliferation Treaty (1970)
- Labour Act (1992)
- Marriage Equality Act (2002)
- National Code on HIV/AIDS and Employment (1996)
- National Employment Policy (1997)
- National Heritage Act (2004)
- Pending Minerals Safety Bill
- Primary Health Care Policy (1990)
- Public Health Act (1919)
- Regional Councils Act (1992) as amended
- Road Traffic and Transport Act (1999)
- Traditional Authorities Act (1995)
- War Graves and National Monuments Amendment Act (1986)

**The biophysical environment**

- Air Quality Act (2004)
- Atmospheric Pollution Prevention Act (1965)
- Atmospheric Pollution Prevention Ordinance (1976)
- Convention on Biological Diversity (2000)
- Convention to Combat Desertification (1997)
- Forestry Act (2001)
- Minerals Policy of Namibia (2003)
- Namib Naukluft National Park Management and Tourism Development Plan (2004)
- Namibian Water Corporation Act (1997)
- Nature Conservation Ordinance (1975) and Nature Conservation Amendment Act (1996)
- Parks and Wildlife Management Bill (2009) to repeal the Nature Conservation Ordinance (1975)
- Pollution and Waste Management Bill (draft)
- Ramsar Convention (1975)
- Soil Conservation Act (1969)
- Equator Principle
- Strategic Environmental Assessment for the Central Namib Uranium Rush (2010)
- United Nations Framework Convention on Climate Change (1992)
- Water Act (1956) and yet to be enabled Water Act (2004)
- Water Resources Management Act (2004)

In addition there are three significant pieces of environmental legislation that focus this assessment, *viz.* The Environmental Management Act, the Minerals Act and the Radiation Protection Act. These are reflected below, followed by reference to other legislation, standards, and conventions that may prove to be relevant.

**ENVIRONMENTAL MANAGEMENT ACT**

In giving effect to articles 91(c) and 95(l) of the Constitution of Namibia, general principles for sound management of the environment and natural resources in an integrated manner have been formulated. This has resulted in an Environmental Assessment and Management Act being approved by the Namibian Parliament in October 2007. It was gazetted on 27 December 2007 as the Environmental Management Act (No.7 of 2007), Government Gazette No. 3966. Part 1 of the Environmental Management Act describes the various rights and obligations that pertain to citizens and the Government alike, including an environment that does not pose threats to human health, proper protection of the

environment, broadened *locus standi*<sup>3</sup> on the part of individuals and communities, and reasonable access to information regarding the state of the environment.

Part 2 of the Act sets out 13 principles of environmental management, as follows:

- Renewable resources shall be utilised on a sustainable basis for the benefit of current and future generations of Namibians.
- Community involvement in natural resource management and sharing in the benefits arising there from shall be promoted and facilitated.
- Public participation in decision-making affecting the environment shall be promoted.
- Fair and equitable access to natural resources shall be promoted.
- Equitable access to sufficient water of acceptable quality and adequate sanitation shall be promoted and the water needs of ecological systems shall be fulfilled to ensure the sustainability of such systems.
- The precautionary principle and the principle of preventative action shall be applied.
- There shall be prior environmental assessment of projects and proposals which may significantly affect the environment or use of natural resources.
- Sustainable development shall be promoted in land-use planning.
- Namibia's movable and immovable cultural and natural heritage, including its biodiversity, shall be protected and respected for the benefit of current and future generations.
- Generators of waste and polluting substances shall adopt the best practicable environmental option to reduce such generation at source.
- The polluter pays principle shall be applied.
- Reduction, reuse, and recycling of waste shall be promoted.
- There shall be no importation of waste into Namibia.

There is a clear commitment to pursuing these principles of environmental management on the part of Rössing Uranium as the proponent of the project. Further, cognisance has also been taken of the Environmental Impact Assessment Regulations: Environmental Management Act, 2007 (Government Gazette No. 4878) that was promulgated on 6 February 2012.

## **MINING LEGISLATION**

A provision of the Minerals Act, specifically Section 48 (2) (b) (i) of the Act, is that “*environmental impact studies*” may be called for by the Minister of Mines and Energy (MME) when mineral licences - or their renewal or transfer - are applied for.

Rössing Uranium is presently operating under a mining licence (ML 28) issued by MME and this will remain unaffected for the current mining operation and the proposed mining of the Z20 Uranium deposit project.

## **ATOMIC ENERGY AND RADIATION PROTECTION ACT**

Radiological protection standards are criteria set to ensure compliance with the basic principles of radiation safety as set out in ICRP (2007) and IAEA (1996) publications. The National Radiation Protection Authority of Namibia adopted these principles and promulgated the Atomic Energy and Radiation Protection Act (Act No. 5 of 2005). The aim of this regulatory framework is to ensure the protection of individual members of the public and their surrounding environment. As such, dose limits and dose constraints (some fraction of the dose limit) and other appropriate criteria are defined.

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<sup>3</sup> Definition: Latin for 'place to stand', in law, the right to bring an action.

# DESIGN PHASE

The OHSEC Mitigation Table presented hereunder is aimed at facilitating effective OHSEC mitigation implementation during the design phase. To assist with the cross-referencing between OHSEC mitigation prescribed and existing Rössing Uranium HSE management system procedures, a full list of Rössing Uranium HSE management system procedures (as provided by Rössing Uranium) that may be applicable, has been included as Annexure B, although relevant references are provided in the Rössing Uranium HSE Reference column of the OHSEC Mitigation Table. This list and column references are not necessarily exhaustive and could require updating by Rössing Uranium in future.

Table 1: Design Phase OHSEC Mitigation Measures

ID:	Component	Aspect	Management Objective	Management Action	Action Frequency	Target / Standard	Rössing Uranium HSE Reference	Indicator	Responsibility
1	Aerial conveyor system.	Visual impact.	Minimise the visual impact and landscape.	All substantial man-made structures and large plant and equipment should be painted a grey-brown colour to blend the surrounding landscape, so as to minimise visual contrast.	On-going.	Acceptable in the opinion of the H&E Officer.	Project requirement.	Physical verification and routine OHSEC monitoring and reporting.	H&E Officer
2		Noise impact.	Prevent conveyor belt from generating harmonics through wind and belt movement.	To minimise noise generation, vendors should be required to guarantee optimised equipment design noise levels for i.e. the RopeCon®/RailCon® electrical drive motors.	Design phase.	Aerial conveyor designed with noise impact in mind.	Project requirement.	Facility detailed design and physical verification	Design team; HSE department
3			Basic good engineering practice to reduce noise impact.	Mechanical and electrical design influences the amount of noise from stacking and reclaiming operations. Therefore the enclosure of major sources of noise, such as compressor or pump systems, must be included in the design process.	Design phase.	Aerial conveyor designed with noise impact in mind.	Project requirement.	Facility detailed design and physical verification	Design team; HSE department
4				Enclose the tipper discharge and lower the conveyor drop height in order to reduce noise emissions..	Design phase.	Aerial conveyor designed with noise impact in mind.	Project requirement.	Facility detailed design and physical verification	Design team; HSE department
5			Dust impact.	The conveyor belt must be able to withstand high wind speeds.	The design of the conveyor should comply with internationally accepted standards with regards to the ability to withstand high wind speed.	Design phase.	Optimal design.	Project requirement.	Facility detailed design and physical verification
6		Radiation impact.	Prevent rocks, material and or dust from falling from conveyor.	The conveyor must be installed with the RopeCon® / RailCon® turning device to ensure that the "dirty" side of the conveyor always faces upwards.	Design phase.	Optimal design.	Project requirement.	Facility detailed design and physical verification	Design team.

ID:	Component	Aspect	Management Objective	Management Action	Action Frequency	Target / Standard	Rössing Uranium HSE Reference	Indicator	Responsibility
7				Ensure RopeCon® has sides of 200mm high and a roof covering the entire conveyor length.	Visual monthly inspections to ensure the conveyor are operational according to design specifications.	Acceptable in the opinion of the H&E Officer.	Project requirement.	Physical verification and routine OHSEC monitoring and reporting	H&E Officer
8			Protect employees from radiation exposure.	Dust fallout and airborne dust concentrations together with the respective radionuclide concentrations, should be measured. At the same locations as indicated in line 19 of Table 5. In particular, measurements should be conducted in the river bed beneath the proposed conveyor position before construction, to establish a baseline of dust deposition, and during operation.	Review on an on-going basis as critical groups might change as people move.	Data available to address public concerns regarding dust fallout.	Project requirement.	Physical verification and routine OHSEC monitoring and reporting.	H&E Officer
9		Air quality.	Reduce PM <sub>10</sub> concentrations and prevent dust fallout.	It is recommended that the proposed conveyor system be designed as per the RopeCon® description, ensuring sides of 200 mm and a roof covering the entire conveyor length. It is further recommended that the transfer points be enclosed with an extraction system and bag filter attached. This will ensure >95% control efficiency in comparison to the 70% from enclosure only.	Design phase.	Conveyor system designed with air quality impact in mind.	Project requirement.	Facility detailed design and physical verification	Design team; HSE department
10	Material transfer points PM <sub>10</sub> concentrations and dust fallout.		Ensure all transfer points are enclosed with dust extraction system and fitted with a bag filter.	Visual monthly inspections to ensure no visual dust generation from the enclosed transfer points.	Acceptable in the opinion of the H&E Officer.	Project requirement.	Physical verification and routine OHSEC monitoring and reporting	H&E Officer	
11	Access road and bridge.	Visual impact.	Reduce the visual impact of the access road and bridge on nearby receptors.	Reduce the number of bridge pillars, or investigate the feasibility of using a V-shape for the bridge support pillars.	Design phase.	Access road and bridge designed with visual impact in mind.	Project requirement..	Facility detailed design and physical verification	Design team; HSE department
12			Fixtures required on the bridge should be painted grey-brown. The bridge should be left cement-grey in colour.	Design phase.	Project requirement.		Facility detailed design and physical verification	Design team; HSE department	

ID:	Component	Aspect	Management Objective	Management Action	Action Frequency	Target / Standard	Rössing Uranium HSE Reference	Indicator	Responsibility
13				Use local, medium-sized crushed rock instead of gabions for support (or cover gabions with medium-sized crushed local rock) to appear as natural screen slope.	Design phase.		Project requirement.	Facility detailed design and physical verification	Design team; HSE department
14				Plant medium-sized indigenous trees common to the area (Camel thorns proposed) to screen off some of the pillars (a third).	Design phase.		Project requirement.	Facility detailed design and physical verification	Design team; HSE department
15				Blasting activities	Reduce visual impact.		Roughen the final surfaces of rock cuts.	Design phase.	Project requirement.
16		Dust impacts.	Control dust emissions from gravel roads and continue dust fallout monitoring.	Reduce road surface area to only the minimum required. Install only the minimum number of roads of the minimum length and width. The road should be tarred to reduce dust.	Design phase.	Optimal in the joint opinion of the technical and environmental staff responsible for the area in question.	Project requirement.	Final design and design motivations. Physical verification and routine OHSEC monitoring and reporting	Design and Project Management Team, Safety officer and H&E officer
17		Biodiversity impacts.	To avoid unnecessary loss of significant vegetation during road construction.	Adapt the routing of the road to miss all <i>Acacia erioloba</i> , and to avoid as much other significant vegetation as possible. In cases where the route cannot be aligned to avoid all large vegetation, the following trees should be preferentially avoided: <i>Salvadora persica</i> ; <i>Bosciafoetida</i> and <i>Acacia reficiens</i> .  The road should furthermore be routed around large indigenous trees in the Panner Gorge area as these trees are significant features in the landscape.	Design phase.	Access road are planned or designed with potential biodiversity impacts in mind.	Project requirement.	Facility detailed design and physical verification	Design team; HSE department
18			Reduce impact on animal movement.	Allow enough space below bridge and where bridge berm starts for easy animal access during design (avoid the creation of narrow traversing points).	Design phase.	Optimal design.	Project requirement;	Final design	Design team
19		Surface water.	Control of potentially contaminated storm.	Storm water collecting that may have been contaminated with radioactive fines, hydrocarbons and other potentially hazardous chemicals should be collected in an appropriately designed drainage network.	Operational phase at quarterly intervals.	No pollution incidents, contaminated storm water system visibly maintained.	JE50/MSP/001~ Water Quality Management; JE50/OWM/003~ Water Recycling and Re-Use; E10 - Environment Standard~ Water Use and Quality Control; JA05/COP/003~ Environmental Management System Code of Practice.	Physical verification and routine OHSEC monitoring and reporting	H&E officer

ID:	Component	Aspect	Management Objective	Management Action	Action Frequency	Target / Standard	Rössing Uranium HSE Reference	Indicator	Responsibility
20			Manage events of flooding through runoff design.	The design of the road through the gorges should carefully design for runoff, as there is little data available on rainfall intensities. The final road structure should ensure that generated runoff is routed so as to prevent wash and or erosion of material within the gorges and to minimise the transport of material into the Khan River.	Design phase.	All plant or activities are planned or designed with potential surface water impacts in mind.	Project requirement.	Facility detailed design and physical verification	Design team; HSE department
21	Power distribution.	Visual impacts associated with power distribution.	Reduce the visual impact of the power distribution infrastructures on nearby receptors.	Substations need to be located and designed so that they have a minimal impact on views and biodiversity, while maintaining minimum technical requirements. As far as possible, the power line structure should be located as far from the Khan River as possible.  The structures should preferably be constructed from timber poles.	Design phase.	All plant or activities are planned or designed with potential surface water impacts in mind.	Project requirement.	Facility detailed design and physical verification	Design team; HSE department
22		Biodiversity impacts associated with power distribution.	Avoid bird collisions at the Khan River crossing.	The NamPower/NNF Strategic Partnership is studying the effectiveness of different mitigation methods in Namibia, and it would be premature to suggest a specific measure at this time.		Rössing Uranium to liaise with NamPower/NNF Strategic Partnership as part of the detail design stage.	Project requirement.	Facility detailed design and physical verification	Design team; HSE department
23									
24	Water supply pipeline.	Biodiversity impacts associated with water supply line.	Water supply line does not impede movement of animals.	Bury water pipe for stretches along the route, to allow as many opportunities for unhindered animal movement as possible	Design phase.	Water pipeline are planned or designed with potential biodiversity impacts in mind.	Project requirement.	Facility detailed design and physical verification	Design team; HSE department
25	Diesel supply pipeline.	Surface contamination.	Monitor safety features.	Monitor flow, pressure and temperature to detect any change. Shutoff valves will stop flow of diesel.	As required.	No diesel spillage.	Project recommendation.	Physical verification and routine OHSEC monitoring and audit reports.	Plant Manager, H&E and Safety Officers
26	Overarching aspect: Environmental best practice.	Ensuring that mitigation measures and recommendations from the SEIA are carried into the operations.	All proposed mitigation measures are adhered to.	Management strategies identified hereunder be carried forward through the Hazard and Operability (HAZOP) risk identification process and integrated into the HSE management system.	On-going and as required.	HSE management system.	JA05/POL/001~ HSE Policy Strategies; JE10/STD/001~ Standard Compliance (Rio Tinto).	Verify paperwork	Rössing Uranium
27	Overarching Linear infrastructure	Optimal design and layout of infrastructures.	Reduce footprint of linear activities	Incorporate the pipelines into the bridge.	Design phase.	Pipeline incorporated into bridge.	Project requirement.	Facility detailed design and physical verification	Design team; HSE department

ID:	Component	Aspect	Management Objective	Management Action	Action Frequency	Target / Standard	Rössing Uranium HSE Reference	Indicator	Responsibility
28			Specific attention should be given to the location of the structures in relation to the road, given that the road could be used for tourism purposes post-closure.	It is recommended that, should the post-closure tourism option of the road be considered, the consulting services of an accredited landscape architect should be utilised.	Design phase.	Road designed with post-closure options in mind.	Project recommendation.	Final design	Design team
29			Prevent cumulative habitat loss Khan Hillslope habitat range-restricted endemics.	Maintain the small footprint and do not plan additional infrastructure in this habitat.	Design phase.	Road designed with post-closure options in mind.	Project recommendation.	Final design	Design team
30			Ensure biodiversity conservation and habitat rehabilitation.	Where possible, linear infrastructure should be sited on lower-priority habitat.	Design phase.	Overlay of structures and biotope mapping revealing modifications.	Project recommendation; E9 – Environment Standard Land-Use Stewardship; Biodiversity Monitoring Programme; JA05/COP/003 Environmental Management System Code of Practice.	Modified infrastructure layout	Design team and HSE Department
31		Biodiversity management and impact mitigation.	Monitor wildlife use of tributary valleys.	A single survey study assessing the use of all tributary valleys by wildlife based on counting spoor density needs to be undertaken and a monitoring plan must be in place to follow up at frequent intervals.	Prior to the construction phase; with continual monitoring throughout the construction phase.	Monitoring undertaken during regular intervals.	Project Requirement.	Environmental Officer reports and paper trail	Environmental Officer
32				Populations and individuals of all protected plants along the route of all linear infrastructure should be identified, marked and studiously avoided as a matter of design principle as well as during construction.	Prior to the construction phase; with continual monitoring throughout the construction phase.	Without exception.	Project Requirement.	Environmental Officer reports and paper trail	Environmental Officer
33		Visual impacts associated with infrastructure corridor.	Reduce the night-time visual impact of the infrastructure to nearby receptors.	Consideration should be afforded to the impact of lighting and the greater zone of visual influence at night. All lighting should be designed as low-level purpose designed lighting. Spillage or floodlighting of areas shall be avoided as far as possible.	Design phase.	All lighting designed with visual impact in mind.	Project recommendation.	Facility detailed design and physical verification	Design team; HSE department
34				Security and perimeter lighting must also be shielded and excessively tall light poles are to be avoided. Utilisation of specific frequency LED lighting with a green hue on perimeter security fencing should be considered.	Design phase.	All lighting designed with visual impact in mind.	Project recommendation.	Facility detailed design and physical verification	Design team; HSE department

ID:	Component	Aspect	Management Objective	Management Action	Action Frequency	Target / Standard	Rössing Uranium HSE Reference	Indicator	Responsibility	
35				Except for aircraft warning lights, no naked light sources are to be directly visible from a distance. Aircraft warning lights are to be installed according to the relevant authority requirements.	Design phase.	All lighting designed with visual impact in mind.	Project recommendation. C7 Aviation Safety	Facility detailed design and physical verification	Design team; HSE department	
36				Up lighting, overhead lighting and directional lighting of tall structures or topographical features must not be considered when planning lighting and avoided as far possible.	Design phase.	All lighting designed with visual impact in mind.	Project requirement.	Facility detailed design and physical verification	Design team; HSE department	
37				Lighting reduction design and technologies should be assessed during detailed design.	Design phase.	All lighting designed with visual impact in mind.	Project recommendation.	Facility detailed design and physical verification	Design team; HSE department	
38				No street lights should be considered along the road or bridge.	Design phase.	All lighting designed with visual impact in mind.	Project requirement.	Facility detailed design and physical verification	Design team; HSE department	
39										
40										
41			Use Mesopic LED lighting that is downward directional and side-screened for the conveyor transfer points	Design phase.	All lighting designed with visual impact in mind.	Project recommendation.	Facility detailed design and physical verification	Design team; HSE department		
42			Route infrastructure so as to limit visual impact on receptors.	Road and component design and layout should not consider routes or positions on high points or slope faces that may be visible from distances, or mitigate these wherever possible through repositioning or screening measures.	Design phase.	All plant or activities are planned or designed with potential visual impacts in mind.	Project recommendation.	Facility detailed design and physical verification	Design team; HSE department	
43				Within the limits of engineering feasibility structures should be as low as possible to the ground. Assess the possibility of reducing the heights of RopeCon® and power line towers visible from the Khan River.	Design phase.	All plant or activities are planned or designed with potential visual impacts in mind.	Project recommendation.	Facility detailed design and physical verification	Design team; HSE department	
44			Surface water impacts associated with infrastructure corridor.	Manage storm water runoff.	The design of the road through the gorges should take care when designing for runoff. The final road structure should ensure that generated runoff is routed so as to prevent wash/erosion of material within the gorges and to minimise the transport of material into the Khan River.	Design phase.	All plant or activities are planned or designed with potential surface water impacts in mind.	Project recommendation.	Facility detailed design and physical verification	Design team; HSE department
45				Prevent erosion.	Possible mitigation measures would be the addition of gabions at the bridge pedestals to reduce erosion/scouring effects.	Design phase.	All plant or activities are planned or designed with potential surface water impacts in mind.	Project recommendation.	Facility detailed design and physical verification	Design team; HSE department

ID:	Component	Aspect	Management Objective	Management Action	Action Frequency	Target / Standard	Rössing Uranium HSE Reference	Indicator	Responsibility
46			Monitoring of surface water resources.	Conduct a survey (study) to quantify the risks posed by this impact to ecosystem integrity in the region.  Establish the number and spatial distribution of water points and quantify their use over time by different species.	Design phase.	Data.	Project requirement.	OHSEC monitoring and reporting	HSE department
47	Overarching aspects.	Updating and maintaining the Rössing Uranium HSE MS.	Ensuring that all mitigation measures are incorporated into Rössing Uranium's management system ahead of commencement of construction to avoid any oversights.	Rössing Uranium HSE team to review design, construction, operational and decommissioning phase SEMP's and update the system and particularly HSE related procedures where possible.	Design phase.	All mitigation measures reflected in Rössing Uranium HSE procedures before the onset of mining activities.	Project recommendation.	Revised HSE procedures	HSE Department
48		Archaeological impacts.	Prevent avoidable impacts to archaeological important sites.	The project planning process should prioritise final definition of the infrastructure corridor so that the archaeological sites that are likely to be affected can be identified with certainty. Once this is done, the corridor to be developed should be clearly marked on the ground, and contractors informed of their responsibilities under the heritage legislation. Mitigation work should be scheduled as early as possible in the development programme.	Design phase.	No avoidable impacts to archaeological important sites.	Project requirement	Final design.	HSE Department
49			Authorisations in place prior to commencement of work.	Mitigation with a view to possible destruction of the site in the course of infrastructure development will require approval from the National Heritage Council.	Design phase.	Physical verification of approval.	Project requirement	Final design.	HSE Department
50			Prevent fragmented management effect.	Coordinate management of specifically potential cumulative impacts with other developing projects.	Design phase.	Mining houses collaborate as far as feasibly possible to prevent cumulative impacts.	Project recommendation.	Final design.	Design tem; HSE Department
51		Reduce overall impact.	Reduce Biodiversity impacts.	Decrease area disturbed through consistent application of environmental management principles in design and careful management of construction teams	Design phase.	No unnecessary disturbance.	Project requirement.	Final design.	Design tem; HSE Department
52				As far as possible, use only existing tracks for construction and maintenance of infrastructure.	Design phase.	No unnecessary disturbance.	Project requirement.	Final design.	Design tem; HSE Department

ID:	Component	Aspect	Management Objective	Management Action	Action Frequency	Target / Standard	Rössing Uranium HSE Reference	Indicator	Responsibility
53				Control of unnecessary collateral damage due to vehicle activity, particularly during construction will largely dictate the extent of the damage caused.	Design phase.	No unnecessary disturbance.	Project requirement.	Final design.	Design team; HSE Department
54		Socio economic.	Ensure on-going mine worker safety.	All equipment, plant, and facilities should be fitted with appropriate safety demarcations, warning and information signage to ensure that an employee can avoid foreseeable risks and navigate to safety in the event of an emergency. All moving parts equipment shall be fitted with the required barricading, lockout measures and emergency stop trip switches.	Design phase.	All safety and warning signage to be in place before plant commissioning.	Project recommendation; Occupational Health and Safety Act; JH50/COP/014~ Aisles, Storage & Demarcation JH50/COP/016~ Colour Coding JH50/COP/017~ Barricading and Demarcation JH50/COP/025~ Safety Training Courses JH50/COP/030~ Working at Heights.	Physical verification, routine OHSEC monitoring and reporting	H&E, Safety Officer and Plant Manager
55	Existing Rössing Uranium health and safety measures and processes are to be applied to all activities. All designs shall take cognisance of the relevant statutory and in-house requirements associated with health and safety aspects. All facilities shall consider the health and safety risks associated with such facility and cater for whatever mitigation measures are deemed appropriate, be it emergency and or automated stops, lockout systems and barricades, fire protection systems, and so forth.			Design phase.	All facilities designed with occupational health and safety requirements in place.	Occupational Health and Safety Act; B2 - OH Standards - Hearing conservation; JH50/COP/017~ Barricading and Demarcation; JH50/COP/031~ Personal Protective Equipment E6 - Environment Standard~ Noise and Vibration Control.	Final design	Design team, HSE Department	
56	Safe transportation of staff on mine roads.		Road design to include the road user risk reduction system measures, as per the Rössing Uranium standard practice.	Design phase.	Rössing Uranium standards.	C3 - Vehicles and Driving; Project recommendation; Occupational Health and Safety Act.	Final design	Design team	
57	Biodiversity management and impact mitigation.	Biodiversity conservation and habitat rehabilitation.	Transplanting trials would be a very valuable exercise for species of high conservation value, enabling Rössing Uranium to demonstrate its commitment to biodiversity conservation. Once the site lay-outs for the infrastructure are available, affected specimens should be marked and a suitable site selected for a transplant trial. Involvement of the National Botanical Research Institute would be essential to obtain permits and relevant expertise.	Design phase.	Transplant trial findings documented.	Project recommendation; E9 – Environment Standard Land-Use Stewardship; Biodiversity Monitoring Programme; JA65/MSP/001 Monitoring and measurement; JA05/COP/003 Environmental Management System Code of Practice.	Physical verification	HSE Department	
58			After investigating options to avoid, minimize and rehabilitate adverse impacts, residual biodiversity impacts become part of the total footprint of Rössing to be offset in order to create a Net Positive Impact left behind by the mine at closure.	Design phase.	Biodiversity off sets areas identified	Project recommendation	Physical verification	HSE Department	

ID:	Component	Aspect	Management Objective	Management Action	Action Frequency	Target / Standard	Rössing Uranium HSE Reference	Indicator	Responsibility
59				Rehabilitation practices such as preserving and re-spreading topsoil, seeding and replanting with indigenous species will need to be tested and site-specific protocols developed for particular habitats.	Design phase.	Documented findings.	Project recommendation; E9 – Environment Standard Land-Use Stewardship; Biodiversity Monitoring Programme; JA05/COP/003 Environmental Management System Code of Practice.	Physical verification and monitoring data / documents	HSE Department
60				With regard to biological soil crusts, it will be useful to retain surface soil layers in areas to be newly disturbed. Experiments could reveal whether this assists restoration rehabilitation of disturbed areas, and could provide practical guidelines on how to most effectively maintain biological soil crusts.	Design phase.	Testing undertaken and conclusions drawn.	Project recommendation; E9 – Environment Standard Land-Use Stewardship; Biodiversity Monitoring Programme; JA05/COP/003 Environmental Management System Code of Practice.	Physical verification and monitoring data / documents	HSE Department
61				Undertake a search and rescue / relocate operation in the area ahead of the commencement of construction activities. As much topsoil material from the footprint should be recovered as possible and placed in long term stockpiles for later use in rehabilitation of the area.	Design phase	Rescue all conservation worthy species from areas of disturbance.	Project recommendation; E9 – Environment Standard Land-Use Stewardship; Biodiversity Monitoring Programme; JA05/COP/003 Environmental Management System Code of Practice.	Physical verification	HSE Department
62				Circulate biodiversity information with other mining companies, in order to address the cumulative impacts of uranium mining on impacted species with larger ranges, and link Rössing Uranium's biodiversity database and information on biodiversity risks to the Central Namib Strategic Environmental Assessment (SAIEA, 2010). Use data from future biodiversity surveys to inform monitoring programme and adaptive management for the infrastructure corridor at Rössing Uranium, in order to avoid and minimise impacts on critical habitats and species. Encourage continued taxonomy and analysis of existing invertebrate material and museum collections from previous biodiversity surveys at Rössing Uranium, in order to further update and refine the list of species on conservation concern.	Contract term/ad hoc.	Recommended.	Project requirement.	Relevant correspondence with other mines	HSE Department
63				Populations and individuals of all protected plants along the route of all linear infrastructures should be identified, marked and studiously avoided as a matter of design principle as well as during construction with special emphasis on high-profile species such as <i>Acacia erioloba</i> , <i>Lithopsruschiorum</i> and <i>Adeniapechuelli</i> . See Annexure of draft scoping report for AWR and BioData (2012) for detailed species lists.	Design phase.	All infrastructures routed around high-profile specimens.	Project requirement.	Physical verification	HSE Department
64				A permit to remove and/or damage protected plants should be obtained, as should a collecting permit for plant rescue.	Design phase.	Without unwarranted exceptions.	Project requirement.	Physical verification of permits	HSE Department

ID:	Component	Aspect	Management Objective	Management Action	Action Frequency	Target / Standard	Rössing Uranium HSE Reference	Indicator	Responsibility		
65	Waste and pollution management.		Prevent diesel storage areas from impacting on surrounding environment.	Diesel shall be stored in appropriate storage tanks or in bowzers. The tanks/bowzers shall be situated on a smooth impermeable surface with a permanent bund. The impermeable lining shall extend to the crest of the bund and the volume inside the bund shall be 130% of the total capacity of all the storage tanks/ bowzers. The floor of the bund shall be sloped, draining to an oil separator.	Design phase.	Without unwarranted exceptions.	Project Requirement.	Physical verification and routine OHSEC monitoring and audit reports	HSE Department; Design team		
66				Prevent environmental pollution and health risks associated with human wastes.	Provision for conservancy tanks and haul by truck must be factored into the design for all new facilities equipped with ablation facilities.	Design phase.	Optimal design.	Occupational Health and Safety Act; JE50/OWM/003 Water Recycling and Re-Use; JE50/SOP/003 Sewage Plant Operation.	Final design	Design team	
67					An adequate number of ablation facilities must be provided at or near every place of work to discourage staff abluting in the open. Use water saving devices in all ablation facilities e.g. dual flush toilets, tap diffusers, automatic turn-off taps.	Design phase.	Sufficient number of ablation facilities provided.	Project requirement; Occupational Health and Safety Act; JE50/OWM/003 Water Recycling and Re-Use.	Physical verification	Design team	
68					Design teams must ensure that the existing sewerage treatment facility has capacity to process the additional waste generated as a result of the new facilities and the increase in staff numbers.	Design phase.	Relevant water standards.	Occupational Health and Safety Act; JE50/OWM/003 Water Recycling and Re-Use; JE50/SOP/003 Sewage Plant Operation.	Sewerage effluent test results; Optimal plant operation	Design team, HSE Department	
69					Prevent environmental pollution and health risks associated with general or domestic type wastes.	All waste material to be identified and classified as general or hazardous type waste.	Design phase.	Provision for handling and removal of all other waste materials.	Project recommendation; E7 - Environment Standard Non-Mineral Waste Management.	Final design	Design team
70				Every component design must cater for the safe and efficient recovery, storage, handling and removal of the typical waste items expected to arise at any given linear structure.		Design phase.	Provision for handling and removal of all other waste materials.		Final design	Design team	
71				Temporary waste storage facilities should be weather, wind, and scavenger proof to the size of at least small rodents or birds.		All phases	Provision for handling and removal of all other waste materials.		Physical verification	Design team	
72				Noise, dust and Vibration management.	To assess the changes in overall noise levels generated by additional infrastructures, allowing for the on-going identification and mitigation of excessive noise and vibration emissions and/ or sensitive receptors.	Undertake noise monitoring programme in accordance with specialist's detailed monitoring programme and monitoring requirements.	Design phase.	Noise monitoring undertaken as per specialists monitoring programme.	Project requirement; SANS Code of Practice: SANS 10103:2008 & Noise Control Regulations (Section 25 of the Environmental Conservation Act 73 of 1989.	Reporting	HSE department
73						Develop a mechanism to monitor noiselevels, record and respond to complaints and mitigate impacts.					
74						Commence with noise monitoring as soon as possible, and preconstruction phase, to ensure that adequate baseline information is captured.	Design phase.	Commence with monitoring at least one month prior to commencement.	Project recommendation; E6 - Environment Standard - Noise and Vibration Control; JA65/MSP/001- Monitoring and Measurement.	Data	HSE department
75											

ID:	Component	Aspect	Management Objective	Management Action	Action Frequency	Target / Standard	Rössing Uranium HSE Reference	Indicator	Responsibility
76			Implement good design philosophies to address potential noise impacts.	Vibrating screens structures are known to be noisy and must be installed on vibration isolating mountings.	Design phase.	Optimal design.	Project requirement.	Facility detailed design and physical verification	Design team; HSE department
77			Layout of permanent structures.	Site permanent facilities away from community areas if possible.  Noise sources should be relocated to less sensitive areas to take advantage of distance and shielding	Design phase.	Optimal design.	Project requirement.	Facility detailed design and physical verification	Design team; HSE department
78		Blasting activities.	Undertake baseline monitoring	Undertake base line radiation and soil monitoring as recommended by NECSA (2012).	Design phase.	Commence with monitoring at least one month prior to commencement.	Project requirement; E6 - Environment Standard - Noise and Vibration Control; JA65/MSP/001~ Monitoring and Measurement.	Data	HSE department
79			Ensure that blasting activities are undertaken in a manner that will result in a product that can blend in with the surrounding environment.	Blasting of rock outcrop crests to be rough-blasted to reduce even slopes.	Design phase.	All blasting activities are planned or designed with potential visual impacts in mind.	Project recommendation.	Facility detailed design and physical verification	Design team; HSE department
80			Ensure that blasting activities are undertaken in a manner that does not result in preventable noise impacts.	Proper blast design to be undertaken. The air overpressure can be controlled through proper, charge mass, stemming height and type, burden to blast hole ratios and the combined effect of burden, spacing and blast timing control.	Design phase.	All blasting activities are planned or designed with potential noise impacts in mind.	Project requirement.	Facility detailed design and physical verification	Design team; HSE department
81			Reduce potential vibration impacts through blasting design.	Apply proper, charge mass, stemming height and type, burden to blast hole ratios and the combined effect of burden, spacing and blast timing control.	Design phase.	All blasting activities are planned or designed with potential noise impacts in mind.	Project recommendation.	Facility detailed design and physical verification	Design team; HSE department
82			Reduce distance of fly rock during blasting activities.	Apply proper, charge mass, stemming height and type, burden to blast hole ratios and the combined effect of burden, spacing and blast timing control.	Design phase.	All blasting activities are planned or designed with potential noise impacts in mind.	Project recommendation.	Facility detailed design and physical verification	Design team; HSE department
83			Reduce gas emissions	Apply proper, charge mass, stemming height and type, burden to blast hole ratios and the combined effect of burden, spacing and blast timing control.	Design phase.	All blasting activities are planned or designed with potential noise impacts in mind.	Project recommendation.	Facility detailed design and physical verification	Design team; HSE department
84			Ensuring that mining	Implement the blast noise and vibration monitoring	Design	Project requirement;	Project recommendation;	Completed	Design team

ID:	Component	Aspect	Management Objective	Management Action	Action Frequency	Target / Standard	Rössing Uranium HSE Reference	Indicator	Responsibility
85			blasting impacts are thoroughly monitored.	programmes. Source the required monitoring equipment and establish monitoring stations. Set up a ground vibration monitoring programme with at least three monitors around the mine, i.e. the Namib-Naukluft Park, Arandis town and north of the Khan River.	phase.	Occupational health and safety standards and Rössing Uranium standards.	E6 - Environment Standard - Noise and Vibration Control; JA65/MSP/001~ Monitoring and Measurement Occupation Health and safety Act.	monitoring programme	

# CONSTRUCTION PHASE

## ORGANISATIONAL FRAMEWORK

This section relates to the establishment of the organisational framework necessary for the implementation of the prescribed mitigation measures, as included in the OHSEC Mitigation Table on page 30 for the construction phase of the proposed facilities.

### Site Organisational framework

The construction phase of the various infrastructures will be administered through an Engineering Contract, of which the OHSEC Mitigation Table should form part. To ensure that OHSEC considerations receive appropriate attention, it is recommended that an organisational framework be established and that duties and responsibilities for OHSEC aspects of the contract be delegated to specific individuals, thereby ensuring due diligence, capacity, and accountability. To this end, the organisational framework presented in Figure 3 is proposed.

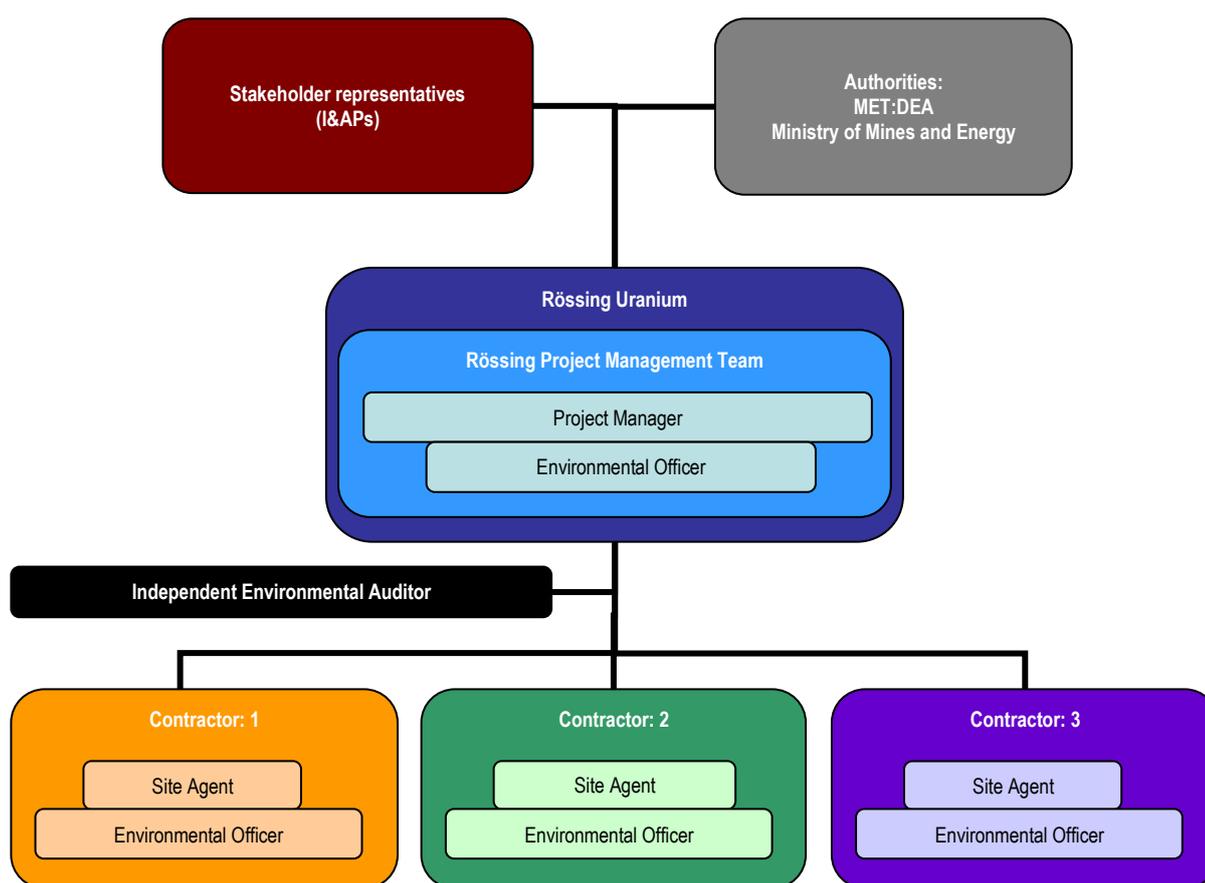


Figure 3: Organisational Framework for Ensuring OHSEC Compliance during Construction

OHSEC management of a construction site remains highly fluid and thus the OHSEC Mitigation Table will not be able to cover every eventuality. It is therefore important that a well-defined organisational framework is in place, detailing delegated responsibilities and allowing for appropriate decision-making on *ad hoc* situations, thus adapting the OHSEC Mitigation Table or management strategies / objectives to changing or unexpected situations.

## ROLES AND RESPONSIBILITIES

Table 2 provides an overview of the key roles and responsibilities of the various parties discussed in this section, which are depicted in the organogram in Figure 3.

Table 2: Key Roles of the Various OHSEC Posts

Post / body	Affiliate	Key Role
Authorities	MET:DEA, MME and Arandis Town Council representatives	MET:DEA and MME will be invited to attend monthly site meetings, in particular every 3 <sup>rd</sup> site meeting where the Independent Environmental Auditor will deliver the audit findings.
Stakeholder Representatives	Key stakeholders/ I&APs invited by Rössing Uranium, including authorities	Stakeholders will be invited to a quarterly feedback session, where their queries can be addressed and concerns tabled.
Independent Environmental Auditor	Independent environmental practitioner	Monthly compliance reports to be tabled at the monthly progress meetings. Three month compliance auditing of the implementation of the SEMP, and functioning of the various OHSEC appointments.
Rössing Uranium's Environmental Officer ;Supt. Environmental Stewardship	Qualified environmental / construction supervisor	Facilitation between Rössing Uranium and various Contractors on OHSEC matters. Compiling a weekly report on the compliance of the various Contractors in terms of the OHSEC Mitigation Table.
Contractors Environmental Officers	Suitably senior, designated Contractor employee	Day-to-day monitoring and reporting on compliance of the relevant Contractor in terms of the OHSEC Mitigation Table. Planning and implementation of the OHSEC Mitigation Table, statutory requirements, and <i>ad hoc</i> directives.

## MONTHLY PROJECT MEETINGS

The Independent Environmental Auditor shall summarise the findings of one's monthly compliance report at the monthly project meetings and present the relevant monitoring and compliance records, incident reports and any other information deemed to be of significance. The Project Manager, giving due consideration to the Independent Environmental Auditor's report findings, with the assistance of the meeting attendees shall determine whether the construction activities have been carried out to an acceptable level of compliance in terms of the various OHSEC requirements.

OHSEC issues will be a standing item on the meeting agenda and status of non-compliance items will be recorded in the minutes.

## STAKEHOLDER FEEDBACK

The Rössing Uranium I&AP feedback sessions will be utilised as a forum to provide feedback to the Stakeholder Representatives on the OHSEC performance and compliance with regard to the SEMP, OHSEC Mitigation Table, authorising conditions, and prevailing legislation. The forum also provides stakeholders with an opportunity to express concerns and complaints and provides a platform for continued strengthening of capacity and input regarding the OHSEC aspects of the construction phase of the linear infrastructure. It would also strengthen the relationships between Rössing and the various stakeholders. The Rössing Uranium's Environmental Officer will be required to present a report on these aspects. In addition to the quarterly site meetings, authorities shall also be invited to attend the quarterly stakeholder feedback sessions.

## APPOINTMENT AND BRIEF OF THE INDEPENDENT ENVIRONMENTAL AUDITOR

The appointed Independent Environmental Auditor should be a duly qualified, independent, environmental practitioner with the necessary experience in the construction industry. The position would be a part-time position and should require, on average, 3 or 4 days per month to fulfil the role. The Independent Environmental Auditor's responsibilities include the following:

- Compile formal monthly reports for each of the Contracts, based on~
  - Physical observations during monthly site inspection,
  - Rössing Uranium and Contractors Environmental Officers' daily and weekly internal reports (site diaries);

- Liaise with the Project Management Team, stakeholders, the general public and the Contractor's Environmental Officers on *ad hoc* OHSEC matters;
- Undertake quarterly OHSEC compliance audits in terms of the SEMP on the various Contracts and present a report to the Project Management Team;
- Have sight of and make recommendations to the Project Management Team with regard to the Contractor's key OHSEC method statements; and
- Present technical matters and issues requiring discussion at the monthly project meetings.

Where non-conformances are identified by the Independent Environmental Auditor during the quarterly audits and corrective action is requested, the Independent Environmental Auditor shall signoff that the necessary corrective actions have been affected, by way of formal letter. Copies of the signed-off corrective actions shall be included in the subsequent audit report.

### **APPOINTMENT AND BRIEF OF RÖSSING URANIUM'S ENVIRONMENTAL OFFICER**

A suitably senior member of the Employer's staff should be appointed to the position of Rössing Uranium's Environmental Officer by means of formal designation. It is recommended that this individual be otherwise affiliated with the administration of the construction contracts and should have a good aptitude for construction activities and the principles of OHSEC management, as well as being sufficiently familiar with Rössing Uranium's HSE management systems. It is envisaged that the Rössing Uranium's Environmental Officer will be from the Rössing Uranium HSEC Department, or be specifically appointed by Rössing Uranium for this purpose.

The Rössing Uranium's Environmental Officer's responsibilities include the following:

- Advise the Independent Environmental Auditor and Contractor's Environmental Officers on Rössing Uranium's HSE management systems, policies and procedures on OHSEC management to ensure continuity;
- Assist in the facilitation and accommodation of the Contractor's needs on matters relating to compliance with the OHSEC Mitigation Table:
  - The establishment and implementation of an OHSEC monitoring programme for the monitoring and recording of construction related impacts;
  - Record and report on OHSEC performance of the various Contractors against the OHSEC Mitigation Table;
  - Occupational radiation exposure monitoring;
  - Undertake a daily site inspection of each of the contract areas and compilation of an all-encompassing internal weekly compliance report for submission to the Independent Environmental Auditor, Project Manager (Project Manager) and the respective Contractor's Environmental Officers;
  - Photograph, investigate and compilation of reports on any OHSEC incidents, forming part of the daily report, that may occur, and to notify the Independent Environmental Auditor and Project Manager thereof;
  - Liaise with the Project Manager and Independent Environmental Auditor regarding the review, commenting-on and approval of the Contractor's method statements;
  - Liaise with the Independent Environmental Auditor, Project Manager and the Contractor's Environmental Officers on *ad hoc* OHSEC matters and advising the Contractor's Environmental Officers on day-to-day OHSEC management issues; and
  - Liaise with the Project Manager regarding the quantification and issuing of penalties for non-compliance.

### **APPOINTMENT AND BRIEF OF THE CONTRACTOR'S ENVIRONMENTAL OFFICERS**

A suitable senior member of each Contractor's or internal team's staff should be delegated the responsibilities of the Environmental Officer. The role of the Contractor's Environmental Officer is to ensure the physical implementation of the OHSEC Mitigation Table. The duties of the Contractor's Environmental Officer include:

- Keeping a daily site diary detailing the key events and observation for the day, copies of which shall be submitted to the Rössing Uranium's Environmental Officer as part of the weekly submissions;
- Compiling the required method statements, or the OHSEC section of the technical method statements, for review and approval by the Project Management Team;

- Establishing and maintaining appropriate management systems for routine OHSEC management tasks, which may include but will not be limited to the following:
  - Occupational and health monitoring to measure the level of radiation exposure,
  - Waste collection, handling, storage, transport and disposal, including sewerage, domestic, construction and hazardous wastes,
  - Dust control within the area of activity,
  - Regular dust monitoring,
  - Noise control within the area of activity,
  - Regular noise monitoring,
  - Handling, storage, distribution and storage of hazardous materials, including fuels and lubricants,
  - Establishing and maintaining a program for the maintenance of housekeeping at each of the works areas,
  - Establishing and maintaining a system for the handling and treatment of contaminated water from construction activities, and
  - Acquiring and maintaining the necessary fire, spillage and other accident and emergency response materials that may be required to deal with and contain the damage caused by such accidents;
- Notifying the Rössing Uranium's Environmental Officer of OHSEC incidents as well as initiating appropriate response actions to such incidents;
- Initiating and supervising any remedial OHSEC actions;
- Establishing a program and undertaking or ensuring that staff receive regular OHSEC awareness training as part of tool-box talks;
- Liaising with the Independent Environmental Auditor and Rössing Uranium's Environmental Officer on technical aspects of OHSEC matters; and
- Furnishing the Rössing Uranium's Environmental Officer each week with the necessary information required for compliance monitoring, which may include certificates of waste disposal, records of public complaints, incidents and accidents, daily site diary entries, labour statistics, fallout dust measurement data, etc.

## **MANAGEMENT TOOLS**

The key to effective OHSEC management during the construction phase is to ensure that the requirements of the SEMP, specifically the OHSEC Mitigation measures, are adequately and appropriately implemented on site. The aforementioned OHSEC project organisational framework ensures that sufficient capacity for OHSEC management exists and that the roles and responsibilities have been adequately defined to ensure implementation and accountability. It should be noted that the roles of these various positions may be redefined as the construction phase becomes established and the primary focus of each of the designated positions may shift as the project progresses. Sufficient flexibility must be allowed for such adaptation and amendment. To ensure that these designated positions operate effectively in establishing and maintaining compliance with the OHSEC Mitigation measures, the following management tools are recommended.

## **CONSIDERATIONS AT TENDER ADJUDICATION**

To ensure that the appointed Contractors have made the necessary financial and resource provisions available to meet the OHSEC obligations in terms of the OHSEC Mitigation Table and SEMP, it is essential that the OHSEC requirements be incorporated in the tender documentation and that the tender adjudication process takes cognisance of these aspects of the tender submissions. The following items are to be included in the tender submissions:

## **CONTRACTOR'S SOCIAL AND ENVIRONMENTAL POLICY**

All Contractors should submit existing or compile a draft Social and Environmental Policy (Social and Environmental Policy) in line with Rössing Uranium's existing Occupational Health, Safety and Environment (OHS&E) policy (refer to Annexure A), statutory requirements and the OHSEC Mitigation Table. The draft Social and Environmental Policy should be compiled and submitted as part of the tender submission and considered during the tender adjudication process. The Social and Environmental Policy of the successful bidder will, upon award of the contract, be finalised for approval and will form part of the SEMP for the specific Contract and the Contractor's performance in relation to it and should be evaluated as part of the Independent Environmental Auditor's quarterly environmental audit.

**COMPLIANCE WITH HEALTH, SAFETY AND ENVIRONMENTAL LAWS, POLICIES AND STANDARDS**

The standard health, safety and environment clause contained in Rössing Uranium's General Conditions of Consultancy Services shall apply. Some of the applicable clauses have been included below:

The Consultant agrees to comply, and to ensure that its Personnel comply with a) the Company's health, safety and environmental policies and associated standards applicable from time to time (HSE Policies and Standards), (b) all relevant health, safety and environmental legislation and laws in force from time to time; and (c) the health, safety and environmental conditions.

**Health, Safety and Environmental Management Plan**

- a) If it has not already been finalised as part of the submission of the Consultant's Tender (if any), the Consultant must, within 30 days after the date of the Contract, submit proposed health, safety and environmental management plan(s) (HSE Management Plan(s)) in accordance with the HSE Policies and Standards, for review by the Company Representative.
- b) The Company Representative will review the proposed HSE Management Plan(s) and provide the Consultant with any request for amendments.
- c) The Consultant and its Personnel may not commence work on-Site unless and until the HSE Management Plan(s) and any requested amendments to it have been approved by the Company Representative.
- d) The Company Representative may at any time direct the Consultant to amend the approved HSE Management Plan(s) to adequately reflect any amendments to the HSE Policies and Standards.
- e) The Consultant must keep a copy of the approved HSE Management Plan(s) at its on-Site office or work area at all times during the Term.

**Induction Courses**

- a) Each of the Consultant's Personnel must attend all appropriate and relevant induction courses required by the Company (Company Induction Courses).
- b) Where, pursuant to the operating rules for specific areas of the Company, any of the Consultant's Personnel are required to have specific skills for the performance of the Consultancy Services (Company Competencies), the induction and training requirements in relation to those Company Competencies must:
  - (i) be included in the HSE Management Plan(s);
  - (ii) to the extent they are not set out in the Specifications, be confirmed with the Company Representative; and
  - (iii) be undertaken by the relevant Personnel prior to the commencement of any work on, or near the vicinity of, the Site.
- c) Unless otherwise agreed:
  - (i) the Company will arrange and pay for the Company Induction Courses and will be responsible for the costs of Consultant Personnel attending the Company Induction Courses; and
  - (ii) the Consultant will arrange and pay for all training courses in respect of Company Competencies and will be responsible for the costs of Consultant Personnel attending such training courses.
- d) Any person visiting the Consultant on Site to meet Personnel working on the Site, and who is not performing any type of manual work, will also be required to attend the relevant Company Induction Courses. However, this requirement will not apply if the visitor is accompanied at all times whilst on Site by a person who has attended all relevant Company Induction Courses, and has Company Competencies in relation to access to the Site.

**Removal from Site**

- a) Notwithstanding any other term of the Contract, in the event of any breach of the Clause, the Company may:
- b) require the Consultant, the Consultant's Personnel and/or any other person to leave the Site immediately; and
- c) require the Consultant and/or any of its Personnel to remove any material or substance from the Site at the Consultant's cost, and the Consultant must, at its own cost, ensure such request is immediately complied

with and take all possible action to ensure the protection and safety of all works, personnel and the environment.

### **OHSEC MITIGATION TABLE AND BILL OF QUANTITIES**

The OHSEC Mitigation Table is to be included as part of the tender documentation and the Bill of Quantities. The Contractor shall be required to cost the OHSEC aspects that one may need to commit oneself to in undertaking the construction tasks and failure to do so may result in disqualification.

### **METHOD STATEMENTS**

To ensure that adequate forethought is given to the rollout of the construction operations and the implications thereof, the compilation, review and approval of method statements is a well-demonstrated means of ensuring that adequate risk identification and aversion, resource allocation and general planning are in place ahead of the commencement of any major construction task. Once approved, a method statement is to be issued to the Contractor's staff responsible for the implementation, to serve as a work procedure. A method statement should equip a suitably qualified reader with sufficient information regarding the task to allow for implementation without further instruction. In essence the method statement should answer the What? Why? Where? How? Who? When? type questions in adequate detail. Whilst several OHSEC method statements are prescribed from the outset, each of the technical method statements should contain a subsection that deals with OHSEC considerations specific to that task.

Two categories of method statement can be defined, the first are those that are prescribed by the Contract whereas the second relate to method statements that are requested from the Contractor by the Project Management Team, which address specific *ad hoc* construction issues and are mostly technical in nature. The Contractor shall submit the prescribed method statements within one month after site establishment. All *ad hoc* method statements shall be submitted to the Project Management Team at least two weeks prior to the commencement of the task, to allow sufficient time for the review and approval process to occur. Except for emergency works with the Project Manager's consent, the Contractor shall not commence any activity until the respective method statement is finalised and approved.

### **TASK-SPECIFIC RISK ASSESSMENTS**

The Contractor is required to submit a site-specific health and safety plan, which includes a task-specific risk assessment. The risk assessment covers environmental and health and safety aspects, work methods and construction risks associated with each task that the Contractor team will or is likely to perform in the execution of the works. A Contractor shall not commence any activity without having undertaken a task-specific risk assessment. Risk assessments are to be used to inform safe work procedures presented in relevant method statements.

### **OHSEC AWARENESS**

To encourage compliance with the OHSEC Mitigation Table and other statutory requirements, it is essential that all levels of construction workers and management are made fully aware and continually reminded of these obligations. In order to achieve this, the following mechanisms are prescribed. The Contractor, at one's own discretion, may wish to institute additional measures to enforce the requirements of the OHSEC Mitigation Table.

### **WORKER HIV/AIDS AWARENESS PROGRAMME**

The Rössing Uranium HIV/AIDS Policy currently in place at the Rössing Mine must be extended to the Contractor's workforce. The four key HIV/AIDS programme elements of the Contractor's HIV/AIDS Awareness Programme shall include:

- Prevention, Awareness and Education;
- Voluntary Counselling and Testing;
- Wellness, Counselling and Affordable Treatment; and
- Monitoring and Evaluation.

The Contractor shall be required to submit an HIV/AIDS Awareness Programme, in line with these requirements, upon the award of the Contract. All levels of the Contractor's staff shall attend an HIV/AIDS awareness course as

soon after commencement as is possible, preferably as part of the induction training course. It is recommended that the existing Rössing Uranium awareness course be used for this purpose or that a specialist organisation be commissioned to deliver such a course.

### **OHSEC INDUCTION TRAINING**

It has become common practice to include the OHSEC aspects of the project as part of the standard worker health and safety induction programme that accompanies the appointment of new staff.

It is recommended that the Contractor submit an OHSEC Induction Training syllabus to the Project Management Team and Independent Environmental Auditor for approval before the course is delivered to the workforce. The Contractor's Environmental Officer shall present the approved course to all construction staff under the auspices of the Rössing Uranium's Environmental Officer and Independent Environmental Auditor. All attendees shall sign an attendance register as well as a Code of Conduct booklet, which will serve as evidence that the individual has been informed, understands, and accepts that fines or other punitive measures may be instituted against an offender in the event of non-compliance with the requirements of the OHSEC Mitigation Table and SEMP.

Contractors currently working for Rössing Uranium (i.e. on site contractors) that have already undergone induction training will not be required to undergo induction training again, provided that such training adequately addresses the requirements of the OHSEC mitigation table. Such Contractor's will however be required to undertake task specific training to address OHSEC issues specific to the new areas of endeavour.

### **TOOLBOX TALKS**

To ensure that the level of OHSEC awareness amongst the construction staff remains high, pertinent, task-related, OHSEC considerations shall be presented as an aspect of the toolbox talks or task briefing sessions, at least once a week. Topics shall be relevant to the type of work, and areas or aspects of poor performance may include handling of certain hazardous materials, housekeeping, dust suppression, water and electricity usage, discussions around recent incidents or issued fines.

### **SIGNAGE AND INFORMATION POSTERS**

Posters and signage depicting the OHSEC "dos and don'ts" should be placed at prominent locations throughout the site. A large signboard should be erected at the entrance to the contract area to ensure that all visitors and contract workers are made aware of their obligations whilst on the site.

The Contractor shall be held accountable for any transgressions of the OHSEC Mitigation Table within his/her contract area, whether by his/her personnel or not. It is therefore up to the Contractor to ensure that all persons entering his/her site are authorised to do so and are aware of the various OHSEC controls in effect.

### **CODE OF CONDUCT BOOKLET FOR SITE WORKERS AND VISITORS**

The Contractor shall submit a preliminary version of a Code of Conduct booklet as part of the OHSEC Awareness training method statement for review and approval. All visitors to the Contractor's site shall be issued with a Code of Conduct booklet. After reading the booklet, the front and back page of the booklet is to be signed, the back page to be removed and kept by the Contractor. The booklet shall contain key information relating to the OHSEC "dos and don'ts" on the site. The booklet shall also contain contact details of the Contractor's OHSEC personnel and the applicable emergency numbers. Emergency procedures shall also be included in the booklet as well as a map of the construction site indicating the locations of fire equipment, first aid, emergency assembly points and escape routes as well as any environmental exclusion (no-go) areas.

### **OHSEC MONITORING**

The organisational framework and the posts and briefs of the appointments discussed previously should be the means by which responsibilities for the monitoring of construction activity in terms of this SEMP occur. The key roles of the various posts are summarised in Table 2. Note that since the SEMP is deemed to include relevant MET:DEA authorisation conditions, such should be included as annexure to this document.

The OHSEC monitoring role rests with the Contractor's Environmental Officer, who, by virtue of a daily diary entry, will record the actual physical performance of each of the contractors in terms of the OHSEC Mitigation Table on a real time basis. The Contractor's Environmental Officer shall also be responsible for ensuring that work is carried out in terms of the approved method statements and OHSEC Mitigation Table and that any deviations or non-compliances are captured in the daily diary entries. The Contractor's Environmental Officer's daily diary entries shall be copied to the Rössing Uranium's Environmental Officer at frequent intervals, to be agreed.

The Rössing Uranium's Environmental Officer shall utilise the Contractor's daily diary entries along with on-site observations, monitoring data and any other information available to compile an internal weekly report per Contract, detailing the performance of the Contractor during that week. The internal weekly report shall be submitted to the Project Manager, who, after reviewing it will disseminate the information to the Independent Environmental Auditor as well as the respective Contractor.

The Independent Environmental Auditor's efforts shall be more focused on the implementation and functioning of the various OHSEC positions, systems and their functions, with lesser effort being dedicated toward the resolution of the minor technical or OHSEC site problems. The Independent Environmental Auditor shall compile a formal monthly compliance report, based on the Rössing Uranium's Environmental Officer's weekly internal reports, site observations and any other information at his or her disposal. The Independent Environmental Auditor shall present a summary of report findings at the monthly project meetings.

The Contractor shall notify the Project Management Team of an OHSEC incident or accident as soon as possible and shall submit an incident report within 24 hours. The Contractor's Environmental Officer, Rössing Uranium's Environmental Officer and relevant health and safety personal shall conduct a joint incident investigation and undertake a root cause analysis. The findings of the investigation shall be utilised to update the Contractor's health and safety plan, which may result in the modification of written "safe work procedures".

## **OHSEC REPORTING**

It is essential that the performance or level of compliance of the Contractors in terms of the OHSEC Mitigation Table and other statutory requirements are meticulously recorded to allow Rössing Uranium to demonstrate compliance in terms of the SEIA, SEMP, statutory requirements, and conditions of authorisation. The reporting structure also serves as a management tool in that, in particular the Independent Environmental Auditor's audit reports, will ensure that all the OHSEC designations, key stakeholders and authorities are kept well informed of the Contractor's activities and performance. Table 3 summarises the OHSEC reporting responsibilities.

Table 3: OHSEC Reporting Responsibilities

Report Title	Compiled	Author	Distribution	Content / description
Contractor's Submissions (Per Contract)	Weekly	Contractor's Environmental Officer	Rössing Uranium's Environmental Officer Independent Environmental Auditor Project Manager	<ul style="list-style-type: none"> <li>• Daily site diary entry: <ul style="list-style-type: none"> <li>○ Site conditions</li> <li>○ General progress description</li> <li>○ Description of specific OHSEC problem areas and responses</li> <li>○ Description of remedial action taken</li> <li>○ Description of progress of remedial work</li> <li>○ Incident, accident and event reports,</li> <li>○ Public complaints</li> <li>○ General comments</li> <li>○ Labour statistics</li> </ul> </li> <li>• Accident and incident investigations and root cause analysis</li> <li>• Task specific risk assessments</li> <li>• Water Usage volumes</li> <li>• Fallout dust volumes</li> <li>• Noise level monitoring data</li> <li>• In house OHSEC fines issued</li> <li>• <i>Ad hoc</i> OHSEC performance related items, to be requested by the Independent Environmental Auditor or the Project Management Team</li> <li>• <i>Radiation exposure monitoring</i></li> </ul>
Internal Report Per Contract	Weekly	Rössing Uranium's Environmental Officer	Contractor's Environmental Officer Independent Environmental Auditor Project Manager	<ul style="list-style-type: none"> <li>• Site conditions</li> <li>• General progress description</li> <li>• Description of specific OHSEC problem areas and responses</li> <li>• Description of remedial action requests</li> <li>• Description of progress of remedial work</li> <li>• Method statement status report including those received, reviewed and approved</li> <li>• Review and comment on the dust and noise monitoring data</li> <li>• Incident, accident reports, investigations and root cause analysis</li> <li>• Public complaints</li> <li>• General comments</li> </ul>
Monthly Compliance Report Per Contract	Monthly	Independent Environmental Auditor	Rössing Uranium's Environmental Officer Contractors Environmental Officer Project Manager	<ul style="list-style-type: none"> <li>• Response letter to the Rössing Uranium's Environmental Officer's reports, highlighting areas of concern and making recommendations where appropriate</li> <li>• Key observations made during a weekly site inspection</li> </ul>
Quarterly Audit Per Contract	3 Months	Independent Environmental Auditor	Project Management Meeting Attendees	<ul style="list-style-type: none"> <li>• Evaluate of the performance of the Rössing Uranium's Environmental Officer to undertake his/her designated duties</li> <li>• Evaluation of the performance of the Contractor's Environmental Officer to undertake his/her designated duties</li> <li>• Compliance audit of the Contractor in terms of the requirements of the OHSEC Mitigation Table</li> <li>• Scoring on the level of performance</li> </ul>

## OHSEC AUDITS

The Independent Environmental Auditor should undertake an OHSEC audit of each of the Contracts, every three months, to be presented to the stakeholder representatives. The objective of the audit is to ensure that various posts comprising the OHSEC organisational framework are functioning effectively in terms of their brief, that compliance with the OHSEC Mitigation Table is being achieved, that *ad hoc* decision making on OHSEC matters and the response to any incidents are appropriate and executed effectively. The Independent Environmental Auditor shall score the Contractor's performance in each audit report. Once the audit report is in the hands of the authorities, they, together with the Project Management Team, will consider whether the Contractor's performance in relation to the OHSEC Mitigation Table is of an acceptable standard.

## **PENALTIES FOR NON-COMPLIANCE**

The Project Manager, on recommendation of the Rössing Uranium's Environmental Officer, Independent Environmental Auditor, and Stakeholder Representatives, shall be the implementing agent with regard to the application of penalties. It should be recognised that when deciding on punitive measures, effective implementation of the OHSEC Mitigation Table is highly dependent on the maintenance of a good working relationship between the Rössing Uranium's Environmental Officer, Contractor's Environmental Officers, and the Independent Environmental Auditor. An ill-considered or negative response to non-compliance, particularly minor or unintentional transgressions, may cause a breakdown in these relationships, which in itself could lead to increased environmental risk in terms of the frequency and severity of environmental incidents. It is therefore recommended that the following penalties only be considered when the non-compliant Contractor demonstrates apathy in response to a non-compliance, or is found to be repeatedly or deliberately not meeting his/her obligations.

## **WITHHOLDING PAYMENT**

Certain aspects of complying with the OHSEC Mitigation Table will have been priced in the tender documentation. In the event that a Contractor underperforms with regard to a priced item, the Project Manager shall withhold payment on such item until such time as the non-compliance has been rectified.

## **REMOVAL FROM SITE**

In the event that a certain individual or particular plant or machinery is determined to be problematic and the cause of recurring environmental degradation, the Project Manager may issue an instruction to have such person or plant or machinery permanently removed from the site.

## **MAKING GOOD ON ENVIRONMENTAL DAMAGE**

Where the Contractor has not complied with the requirements of the OHSEC Mitigation Table, statutory requirements or Project Management Team directives, all remedial work shall be to the cost of the Contractor and shall be carried out to the satisfaction of the Independent Environmental Auditor and Rössing Uranium's Environmental Officer.

## **SUSPENSION OF WORKS**

In the event that the above punitive measures are not having an adequate effect on the OHSEC performance of the Contractor or where OHSEC incident or degradation as a result of the construction activity is severe, the Project Manager may suspend the works until such matters have been resolved to the satisfaction of the Independent Environmental Auditor and Rössing Uranium's Environmental Officer. The costs associated with such a work stoppage shall be to the account of the Contractor.

## **OHSEC PERFORMANCE INCENTIVES**

The Contractor is to be encouraged to introduce an incentives programme for employees, rewarding good OHSEC performance. An incentives programme can allow an opportunity for competition and performance motivation between various teams working on the site.

## CONSTRUCTION PHASE OHSEC MITIGATION TABLE

The OHSEC mitigation measures table included herewith is aimed at facilitating effective OHSEC mitigation implementation during the construction phase, as well as monitoring and auditing thereof. To assist with the cross-referencing between OHSEC mitigation prescribed and existing Rössing Uranium HSE management system procedures, a full list of Rössing Uranium HSE management system procedures (as provided by Rössing Uranium) that may be applicable, has been included as Annexure B, although relevant references are provided in the Rössing Uranium HSE Reference column of the OHSEC Mitigation Table. This list and column references are not necessarily exhaustive and could require updating by Rössing Uranium in future.

Table 4: Construction Phase OHSEC Mitigation Measures

ID	Aspect	Management Objective	Management Action	Action Frequency	Standard	Rössing Uranium HSE Reference	Indicator	Responsibility
1	RopeCon ® / RailCon® Aerial Conveyor system: Biodiversity impacts.	To prevent the loss of different mountainous habitats.	A helicopter will be used where necessary for the transport of materials, equipment and personnel to pylon sites as suggested in planning. The construction of a construction access track along the conveyor route would extend habitat loss far beyond the pylon footprints and is therefore not allowed.	Contract term.	Without exceptions; Conveyor's inspection gondola used for maintenance activities.	Project requirement.	Physical verification and routine OHSEC monitoring and audit reports	Contractor
2			Rehabilitate all disturbances around construction footprints.	Throughout construction phase.	Without exceptions.	Project requirement.	Physical verification and routine OHSEC monitoring and audit reports	Contractor
3	RopeCon ® / RailCon® Aerial Conveyor system: Visual impacts.	Reduce visual impact of the conveyor system.	Paint all structures desert colours (grey-brown).	Contract term.	Without exceptions.	Project requirement.	Physical verification and routine OHSEC monitoring and audit reports	Contractor
4	Access Road: Biodiversity impacts.	Aquatic habitat loss due to road construction.	Construction activities in the Khan River and tributaries will preferably start after sunrise and finish before sunset so that the disturbance on dusk and dawn animal and bird movement is reduced.	Contract term.	Without unwarranted exception.	Project recommendation.	Physical verification and routine OHSEC monitoring and audit reports	Contractor
5		Road operation on susceptible vertebrate populations due to road kills.	Enforce a speed limit of 60km/h for daytime.	Contract term.	No transgressions.	Project requirement.	Physical verification and routine OHSEC monitoring and audit reports	Contractor
6		Monitor the road kills to determine effectiveness of speed limit and determine whether a different night-time limit is required.	Contract term.	Record all road kill incidents.	Project requirement.	Routine OHSEC monitoring and audit reports	Contractor	
7	Access Road: Air Quality impacts.	Reduce PM <sub>10</sub> concentrations and dust fallout, sulphur dioxide and VOCs during road construction activities.	Water sprays at area to be graded.	Contract term.	Without unwarranted exception.	Project requirement.	Physical verification and routine OHSEC monitoring and audit report	Contractor
8			Freshly graded areas to be kept to a minimum.	Contract term.	Area cleared to be kept to a minimum.	Project requirement.	Physical verification and routine OHSEC monitoring and audit report	Contractor
9		Dust fallout monitoring.	Dust fallout bucket to be placed in the Khan River downwind of the bridge construction with monthly dust fallout rates not exceeding 400 mg/m <sup>2</sup> /day.	Contract term.	Without unwarranted exception.	Project requirement.	Physical verification and routine OHSEC monitoring and	Contractor

ID	Aspect	Management Objective	Management Action	Action Frequency	Standard	Rössing Uranium HSE Reference	Indicator	Responsibility
							audit report	
10			Asphalt production and application to be monitored with passive diffusive tubes for SO <sub>x</sub> and VOCs.	Contract term.	Without unwarranted exception.	Project requirement.	Physical verification and routine OHSEC monitoring and audit report	Contractor
11		Air Quality monitoring	It recommended that a passive diffusive sampling campaign be conducted to sample concentrations of SO <sub>2</sub> and VOCs.	Monthly intervals, <b>during the access road construction phase.</b>	Acceptable in the opinion of the H&E Officer. Data.	Project requirement.	Physical verification and routine OHSEC monitoring and reporting	H&E Officer
12	Access road: Blasting activities	Blasting activities	Proper blast design to be undertaken.	Design phase.	Without unwarranted exception.	Project recommendation.	Facility detailed design and physical verification	Design team; HSE department
13		Ensure that blasting activities are undertaken in a manner that does not result in preventable noise impacts.	Proper blast design to be undertaken. The air overpressure can be controlled through proper, charge mass, stemming height and type, burden to blast hole ratios and the combined effect of burden, spacing and blast timing control.	Design phase.	Without unwarranted exception.	Project recommendation.	Facility detailed design and physical verification	Design team; HSE department
14		Reduce potential vibration impacts through blasting design.	Apply proper, charge mass, stemming height and type, burden to blast hole ratios and the combined effect of burden, spacing and blast timing control.	Design phase.	Without unwarranted exception.	Project recommendation.	Facility detailed design and physical verification	Design team; HSE department
15		Reduce distance of fly rock during blasting activities.	Apply proper, charge mass, stemming height and type, burden to blast hole ratios and the combined effect of burden, spacing and blast timing control.	Design phase.	Without unwarranted exception.	Project recommendation.	Facility detailed design and physical verification	Design team; HSE department
16		Gas emissions	Apply proper, charge mass, stemming height and type, burden to blast hole ratios and the combined effect of burden, spacing and blast timing control.	Design phase.	Without unwarranted exception.	Project recommendation.	Facility detailed design and physical verification	Design team; HSE department
17		Access Road: Borrowing requirements	Sourcing material to construct the access road.	Sand and other material for building, topping and compaction should not be sourced from the Khan River	Design phase.	Without unwarranted exception.	Project recommendation.	Facility detailed design and physical verification
18	Power distribution: Socio-economic impacts.	Ensure safety of employees.	The pylons and poles must be equipped with warning signs and/or base barriers to deter people from climbing the structures.	Once off	No incidents.	Project requirement.	Physical verification and routine OHSEC monitoring and audit reports	Design Engineer and Rössing Uranium Project Management Team
19	Power distribution: Biodiversity impacts.	Reduce impacts of power lines on bird populations due to bird collisions.	Raptor protectors must be placed along transmission lines.	Once off	Insignificant number of bird fatalities.	Project requirement.	Physical verification and routine OHSEC monitoring and audit reports	Contractor

ID	Aspect	Management Objective	Management Action	Action Frequency	Standard	Rössing Uranium HSE Reference	Indicator	Responsibility
20		Monitor bird fatalities.	Given the uncertainties as to the nature and magnitude of the impact, particularly with regard to the conveyor, bird strikes must be monitored to depict a more accurate picture.	Regular intervals for a period of two years	Each bird strike recorded; data.	Project requirement.	Physical verification and routine OHSEC monitoring and audit reports	Contractor
22	Overarching aspects: Legal compliance considerations.	Compliance with legal requirements.	Conditions of authorisation by authorities to be incorporated into Final SEMP.	Upon receipt of authorisation	Before Construction; MET: DEA conditions of clearance.	Project Requirement.	Verify paperwork	SEIA Practitioner
21			Awarding of Contract not to occur before the authorisation is granted and tendering contractors have received the conditions of authorisation.	Once off	Without unwarranted exceptions; MET: DEA conditions of clearance.	Project Requirement.	Verify paperwork: Date of Contractor appointment	Rössing Uranium Project Management Team
22	Overarching aspects: Ensuring Contractor is committed to responsible OHSEC management and has allocated sufficient resources to realise this.	OHSEC and social aspects to be considered during the adjudication of tenders.	Prospective contractors shall undergo Rössing Uranium's prequalification process to assess the Contractor's HSE systems and past performance.	Once off at pre-tender	Without unwarranted exceptions.	Project Requirement.	Verify paperwork	Rössing Uranium Project Management Team
23			OHSEC mitigation table to form part of the Tender and Contract Documentation.	Once off at pre-tender	Without unwarranted exceptions.	Project Requirement.	Verify paperwork	SEIA Practitioner and Project Management Team
24			OHSEC management tasks identified in the OHSEC Mitigation Table and SEMP must be included in the Bill of Quantities and the Contractor shall be required to allocate finances toward OHSEC management requirements.	Once off at pre-tender	Without unwarranted exceptions.	Project Requirement.	Verify paperwork	Project Management Team and Contractor
25			Contractor is required to submit an OHSEC Policy as part of the tender submission that is in line with Rössing Uranium's HSE Policy and the prevailing legislation.	Once off at tender adjudication	In line with Rössing Uranium's HSE Policy.	Project Requirement.	Verify paperwork	Contractor
26			Rössing Uranium should through its recruitment policy, ensure equitable employment opportunities for marginalised groups and expand its skills and capacity development programme to address the disadvantages of low skills and experience in the labour pool and make these programmes available to the contractor's workforce.	Contract term	Without unwarranted exceptions.	Project Requirement.	Verify paperwork and tender documents and employment records.	Rössing Uranium Project Management Team
27			Tender criteria should require training and development of the contractor workforce by the Contractor. In particular, the Contractor should identify and focus on skills that would enable construction workers to become part of Rössing Uranium's permanent workforce when the construction phase ends. Contractors should be required to prioritise local labour and to ensure employment equity by employing representatives of marginalised groups.	Contract term	Without unwarranted exceptions.	Project Requirement.	Verify paperwork and tender documents	Rössing Uranium Project Management Team
23	Overarching aspects: Establish an OHSEC management framework to oversee compliance of the construction contracts.	Ensuring the implementation of OHSEC management best practice and recommended mitigations during construction.	Rössing Uranium to appoint Rössing Uranium's Environmental Officer (Rössing Uranium's Environmental Officer) to monitor Contractor's compliance with regard to the SEMP and OHSEC Mitigation Table.	Appointment to occur as soon as possible after the awarding of the Contract and span the Contract Term.	Without unwarranted exceptions.	Project Requirement.	Signed letter of appointment including Terms of Reference	Rössing Uranium Project Management Team
25			The OHSEC Mitigation Table requires Contractor to appoint a designated Contractor's Environmental Officer (Contractor's Environmental Officer) to undertake compliance monitoring and guide construction activities in line with the SEMP and OHSEC Mitigation Table.	Appointment to occur as soon as possible after the awarding of the Contract and span the Contract Term.	Without unwarranted exceptions.	Project Requirement.	Signed letter of appointment including Terms of Reference	Rössing Uranium Project Management Team and Contractor

ID	Aspect	Management Objective	Management Action	Action Frequency	Standard	Rössing Uranium HSE Reference	Indicator	Responsibility
26		Contractually bind Contractor commitment to sound OHSEC management principles.	HSE Policy submitted as part of Tender submission to be implemented by the appointed Contractor. The HSE policy to form part of the Tender adjudication process.	Tender adjudication and through the Contract Term.	In line with Rössing Uranium's HSE Policy and prevailing legislation.	JA05/POL/001~ HSE Policy Strategies.	Verify paperwork	Rössing Uranium Project Management Team and Contractor
27			Rössing Uranium to appoint an Independent Environmental Auditor (Independent Environmental Auditor) to undertake compliance monitoring and auditing in terms of the SEMP, OHSEC Mitigation Table and other statutory requirements.	Contract Term.	Without unwarranted exceptions.	Project Requirement.	Signed letter of appointment including Terms of Reference	Rössing Uranium Project Management Team
28		Verification of performance through independent involvement and OHSEC monitoring.	OHSEC monitoring programme for the recording of radiation exposure, dust, noise and water use to be established and implemented. This should ideally be linked to the permanent or operational dust monitoring programme as best as possible.	Contract term.	According to the applicable standards.	JA75/MSP/004~ Record-keeping Procedure B1 - Particulate and gas or vapour exposures; B2 - Hearing conservation; B10 - Occupational exposure limits; E2 - Environment Standard~ Air Quality Control JA05/COP/003~ Environmental Management System Code of Practice E10 - Environment Standard~ Water Use and Quality Control JA65/MSP/001~ Monitoring and Measurement JA45/MSP/002~ Communication and Reporting JA40/MSP/003~ Document Control Procedure JA75/MSP/004~ Record-keeping Procedure JE/50/PIN/001~ Monitoring ambient dust levels using high volume samplers JE/50/PIN/003~ Dust Deposition Sampling.	Compliance with respective standard	Rössing Uranium's Environmental Officer Contractor's Environmental Officer and Independent Environmental Auditor
29		Integrate the management of the construction contracts into Rössing Uranium's existing OHSEC management framework to ensure continuity.	Rössing Uranium's OHSEC and contractor management procedures to be made available to the Contractor during the compilation of the various method statements to ensure continuity of management style and best practice.	Ad hoc	Achieve similar quality of OHSEC planning to that found on the mine.	Various ISO: Environmental Management System Procedures relating to water, dust, noise, radon, induction training.	Method statements approved and method statement rejected	Rössing Uranium's Environmental Officer and Contractor's Environmental Officer
30	Overarching aspects: Ensuring adequate OHSEC protections are planned at the	Embody the need for OHSEC planning to form part of the regular planning of construction	To be specified that each method statement shall contain subsections dealing with OHSEC considerations specific to that task.	Contract term	All method statements to have HSE subsection	Project Requirement.	Verification	EIA consultant, Rössing Uranium project Management Team
31			The following method statements are to be submitted:	Within 14 day of	Without unwarranted	Project Requirement.	Verify paperwork	Contractor /

ID	Aspect	Management Objective	Management Action	Action Frequency	Standard	Rössing Uranium HSE Reference	Indicator	Responsibility
32	commencement.	operations in the Contract.	<i>OHSEC Awareness Course: Syllabus and logistics regarding the presentation;</i>	arriving on site	exceptions.	JH50/COP/025~ Safety Training Courses JA30/MSP/013~ Identification of training needs and training methods		Contractor's Environmental Officer
33						<i>Construction camp layout and functioning;</i>		
34			<i>Fuel storage area (Including OHSEC protection measures);</i>			JE50/WMP/002~ Disposal and re-use of hydrocarbons  JE50/WMP/010~ Procedure for action taken in the event of diesel or oil spillage		
35			<i>Concrete Batching Plant and the management of concrete operations;</i>			E9 - Environment Standard~ Land-Use Stewardship		
36			<i>Waste Management System;</i>			C3~ Vehicles and Driving JE50/WMP/002~ Disposal and re-use of hydrocarbons JE50/WMP/006~ Disposal practice for the Rössing Uranium landfill site JK65/PRD/003~ Disposal of Contaminated Items JK65/PRD/007~ Transport of Contaminated Items JE50/WMP/010~ Procedure for action taken in the event of diesel or oil spillage JE50/WMP/012~ Disposal of oil and diesel filters JE50/WMP/014~ Bioremediation of hydro-carbon contaminated soil and sludge JE50/WMP/015~ Disposal of oil trap residue to oil separation tank		
37			<i>Dealing with Contaminated Water;</i>			JE50/WMP/015~ Disposal of oil trap residue to oil separation tank JK65/PRD/003~ Disposal of Contaminated Items		
38			<i>Water Use Management Plan;</i>			JE50/OWM/003~ Water Recycling and Re-Use		
39			<i>Extent of areas to be cleared;</i>			Final Design		
40			<i>Method of undertaking earthworks, including borrow pitting, topsoil handling and erosion, dust and noise controls;</i>			Project Requirement		

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41			<i>In the unlikely event that pesticides are required in the construction camp areas for pest control, the use of pesticides and other poisonous substances, including means of storage;</i>			JE50/WMP/006~ Disposal practice for the Rössing Uranium landfill site JK65/PRD/003~ Disposal of Contaminated Items		
42			<i>Dust control, including methods to prevent dust generation and method to reduce dust where its generation is unavoidable; and</i>			JE/50/PIN/001~ Monitoring ambient dust levels using high volume samplers JE/50/PIN/003~ Dust Deposition Sampling B1 - OH Standards~ Particulate and gas or vapour exposures		
43			<i>Emergency procedures for spillages of hazardous substances, fire and serious accidents.</i>			JH50/COP/013~ Storage of Flammable & Explosive Material; JA15/MSP/006~ Hazard Identification, Risk Evaluation and Risk Management B4 - OH Standards - Hazardous substances; JA75/MSP/004~ Record-keeping Procedure JA45/MSP/002~ Communication and Reporting E5 - Environment Standard - Hazardous Material and Contamination Control; JK65/PRD/007~ Transport of Contaminated Items JE50/WMP/010~ Procedure for action taken in the event of diesel or oil spillage.		
44	Overarching aspects: Communication with Contractor, Contractor's staff and other stakeholders.	To ensure that effective and formal communication between the Project Management Team and the Contractor on OHSEC issues and that communication and instruction carry sufficient weight.	OHSEC performance to be an item on the agenda of all monthly meetings.	Contract term.	Ensure OHSEC aspects are given adequate importance and are not side-lined by technical matters.	Project Requirement.	Minutes of meetings	Project Manager
The Contractor's Environmental Officer to have sufficient authority in terms of the Contractor's organisational framework to initiate the necessary OHSEC management actions.			Contract term.	OHSEC aspects receive adequate attention.	Project Requirement.	Number of incidents to the contrary	Contractor	
System regarding method statement compilation, submission, review, and approval to be rigorously implemented.			Contact term.	No construction having commenced without approved method statement, Without unwarranted exceptions.	Project Requirement.	Rössing Uranium's Environmental Officer / Independent Environmental Auditor reports	All, Project Manager	

ID	Aspect	Management Objective	Management Action	Action Frequency	Standard	Rössing Uranium HSE Reference	Indicator	Responsibility
47			All correspondence relating to OHSEC issues between the Contractor and the Project Management Team to be signed by the Contractor's Site Agent and the Project Manager respectively.	Ad hoc.	Document control system in place.	JA45/MSP/002~ Communication and Reporting JA40/MSP/003~ Document Control Procedure JA75/MSP/004~ Record-keeping Procedure JA45/MSP/007~ External Communications/Complaints.	Verify paperwork	Project Manager, site Agent, Contractor's Environmental Officer, Rössing Uranium's Environmental Officer
48	Overarching aspects: Communication with the external stakeholders.	Ensure that the public and various stakeholders have a means of raising concerns and be kept informed of general project progress.	Key stakeholder representatives and I&APs to be invited to attend monthly site meetings including MET:DEA, Arandis Town Council and MME.	Contract term.	Stakeholder attendance and participation.	Project Requirement.	Minutes of meetings and meeting attendance registers	Project Manager
49			Quarterly feedback meetings, regarding general project progress and Contractor's OHSEC performance to be held with Interested and Affected Parties and key Non-Government Organisations.	Quarterly, throughout contract term.	Without unwarranted exceptions.	Project Requirement.	Minutes of meetings and meeting attendance registers	Project Manager
50			Contact numbers of the Contractor to be prominently displayed at the entrance to the site.	Contract term.	Without unwarranted exceptions from commencement.	Project Requirement.	Physical verification	Contractor
51			Public complaints register to be kept by the Contractor, copies to be submitted to the Project Manager and discussed during monthly site meetings.	Contract term.	Without unwarranted exceptions.	JA45/MSP/007~ External Communications/Complaints.	Physical verification and Contractor's weekly submissions	Contractor and Contractor's Environmental Officer
52			Rössing Uranium should establish a public participation programme to allow public and authorities a platform to voice concerns or complaints relating to construction and operational issues arising. This forum should also be used to broadcast information relating to employment or service provision opportunities, aimed at curbing inward migration. Methods of broadcasting or disseminating relevant information to distant labour feeder communities should be investigated; efforts to identify and communicate with community leaders should be explored.	Contract term.	Without unwarranted exceptions.	JA45/MSP/007~ External Communications/Complaints.	Physical verification and Contractor's weekly submissions	Contractor and Contractor's Environmental Officer
53	Overarching aspects: OHSEC Awareness and attitude of the Contractor's Staff toward OHSEC matters.	Ensuring sufficient OHSEC awareness at commencement.	Contractor's OHSEC Induction training course and Code of Conduct Booklet to be submitted and approved.	Submission within 14 days of commencement.	Without unwarranted exceptions.	JH50/COP/025~ Safety Training Courses JH50/COP/024~ Induction JA30/MSP/013~ Identification of training needs and training methods.	Rössing Uranium's Environmental Officer report	Contractor and Contractor's Environmental Officer
54			OHSEC awareness induction course to be presented to all levels of staff at the commencement of construction.	Within 28 days after commencement and a refresher course every year or as may be required.	All staff to have received induction training.	Project Requirement.	Signed Code of Conduct Booklet held by each person on site	Contractor and Contractor's Environmental Officer
55		Ensuring on-going OHSEC awareness.	OHSEC aspects are to form part regular toolbox talks and task briefing sessions.	Ad hoc / monthly.	An OHSEC or social topic to be dealt with on at least a monthly basis.	JA30/MSP/013~ Identification of training needs and training methods.	Contractor's Environmental Officer daily dairies and Contractor's weekly submissions	Contractor, Contractor's Environmental Officer and Contractor's team supervisors

ID	Aspect	Management Objective	Management Action	Action Frequency	Standard	Rössing Uranium HSE Reference	Indicator	Responsibility
56			Appropriate OHSEC signage and information posters to be prominently displayed and maintained at key locations across the site, as well as at the entrance to the site.	Contract term.	Adequate in the opinion of the Rössing Uranium's Environmental Officer and Independent Environmental Auditor.	Project Requirement.	Physical verification. Rössing Uranium's Environmental Officer and Independent Environmental Auditor reports	Contractor's Environmental Officer
57			Contractor's OHSEC Policy to be displayed prominently onsite where staff may congregate, as well as at the entrance to the site.	Contract term.	Adequate in the opinion of the Rössing Uranium's Environmental Officer and Independent Environmental Auditor.	Project Requirement.	Physical verification. Rössing Uranium's Environmental Officer and Independent Environmental Auditor reports	Contractor's Environmental Officer
58			Rössing's community health and safety programme and the HIV/AIDS awareness programme to be extended to cover Contractor's Staff.	Ad hoc.	All Contractor's staff participate in programme.	Project Requirement.	Attendance register	Rössing Uranium's Environmental Officer
59		Punitive measures and incentives for Contractor's staff	Contractor to be encouraged to adopt a disciplinary system to address common, minor OHSEC misdemeanours of individual staff, such as littering, not using ablution facilities and eating areas, etc.	Ad hoc.	Reduction in the number of offences over time.	Project Requirement.	A reduction in the number of fines issued per month, Contractor's Environmental Officer's reports	Contractor/ Contractor's Environmental Officer
60			Contractor to be encouraged to introduce a competition amongst teams and a monthly award for the best OHSEC performance.	Monthly.	Incentive scheme adopted.	Project Requirement.	Contractor's Environmental Officer and Rössing Uranium's Environmental Officer reports	Contractor's Environmental Officer
61								
62	Overarching aspects: Road safety and traffic control.	To reduce the OHSEC impacts associated with increase of traffic on site roads non-site and public roads.	All site roads shall be equipped with appropriate warning and information signage.	Contract term.	Adequate in the opinion of the Rössing Uranium's Environmental Officer and Independent Environmental Auditor. Meets with industry norms and standards.	C3 - Vehicles and Driving.	Rössing Uranium's Environmental Officer and Independent Environmental Auditor reports	Contractor
63				The movement of all construction vehicles and equipment including suppliers shall be controlled so that they remain on designated routes, are distributed so as not to cause an undue concentration of traffic, are routed, and operated in a manner that minimises disruption to other users and that all relevant laws are complied with.	Contract term.	No public complaints or incidents as a result, or any interference with key mine production traffic.	C3 - Vehicles and Driving; JK65/PRD/007~ Transport of Contaminated Items.	Public complaints register, Rössing Uranium's Environmental Officer and Contractor's Environmental Officer reports

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64			Vehicle operators to have undergone the necessary medical and competency evaluations and be in possession of the required licences.	Ad hoc.	Without unwarranted exceptions.	JH50/COP/024~ Induction C3 - Vehicles and Driving; B7 - OH Standards - Fitness for work.	Health and safety register	Contractor
65			Speed limit on gravel roads for heavy equipment shall be restricted to 15 km/h. Light traffic shall be restricted to 40 km/h and 60 km/h on the tailings and other mine roads, respectively.	Contract term.	Without unwarranted exceptions, spot checks undertaken monthly or as required.	C3 - Vehicles and Driving.	Distance vs time observations	Contractor / Rössing Uranium's Environmental Officer / Contractor's Environmental Officer
66			All gravel roads under the Contractor's control shall be treated to reduce the fugitive dust losses as a result of vehicle entrainment.	Contract term. Dust suppression continually modified to suite climatic conditions.	Fallout dust levels remain within specified tolerances.	C3 - Vehicles and Driving; B10 - OH Standards - Occupational exposure limits.	Fallout dust measurements. Data submitted as part of Contractor's weekly submission	Contractor
67			Vehicles shall not be overloaded or used in a manner or for a task for which they are not suited or intended.	Contract term.	Without unwarranted exceptions.	C3 - Vehicles and Driving.	Rössing Uranium's Environmental Officer, Contractor's Environmental Officer and Independent Environmental Auditor observations	Contractor
68			All construction equipment and vehicles shall be equipped with a fire extinguisher.	Contract term, monthly checks on fire extinguisher service validity certificates.	Without unwarranted exceptions.	C3 - Vehicles and Driving.	Rössing Uranium's Environmental Officer, Contractor's Environmental Officer and Independent Environmental Auditor observation / physical verification	Contractor

ID	Aspect	Management Objective	Management Action	Action Frequency	Standard	Rössing Uranium HSE Reference	Indicator	Responsibility
69			All construction equipment shall be equipped with an audible reverse siren.	Contract term.	Without unwarranted exceptions.	C3 - Vehicles and Driving.	Rössing Uranium's Environmental Officer, Contractor's Environmental Officer and Independent Environmental Auditor observation / physical verification	Contractor
70			In the event that construction work may interfere with site or public traffic, suitable warning signs shall be erected and points-men shall be posted to direct the traffic accordingly. If required, traffic diversions and other traffic flow control mechanisms must be established.	Ad hoc	Without unwarranted exceptions and adequate in the opinion of the relevant health and safety personal and industry norms and standards	Project Requirement	Rössing Uranium's Environmental Officer, Contractor's Environmental Officer and Independent Environmental Auditor observation / physical verification	Contractor
71			The road network must be kept to the minimum required to undertake the works, all roads must be clearly demarcated to prevent vehicles departing the roadways and causing unnecessary damages and increasing construction footprint.	Ad hoc	Without unwarranted exceptions and adequate in the opinion of the relevant health and safety personal and industry norms and standards	Project Requirement	Rössing Uranium's Environmental Officer, Contractor's Environmental Officer and Independent Environmental Auditor observation / physical verification	Contractor
72			Reduce project traffic routing through community areas wherever possible.	Contract term.	Without unwarranted exceptions.	Project Requirement.	Rössing Uranium's Environmental Officer, Contractor's Environmental Officer and Independent Environmental Auditor observation / physical verification	Contractor

ID	Aspect	Management Objective	Management Action	Action Frequency	Standard	Rössing Uranium HSE Reference	Indicator	Responsibility
73			Plant and materials shall be appropriately secured to ensure safe passage between destinations. Loads that pose a risk of dust generation or spillage during transit, including but not limited to sand, stone chip, refuse, paper and cement, shall have appropriate cover. The Contractor shall be held responsible for any clean-up resulting from the failure by his employees or suppliers to secure transported plant and materials properly.	Contract term.	Without exception; No public complaints.	JH15/STD/C3- Vehicles and Driving.	REA, CEO observations.	Contractor
74			Introduce a code of conduct to be adopted by service providers which will address issues such as speed, vehicle maintenance, loading, driver proficiency, alcohol abuse, and passenger safety.	Design phase.	Documented code of conduct. Very few or no accidents arising from negligent driving.	C3 - Vehicles and Driving; Project recommendation; Occupational Health and Safety Act.	Documented code of conduct	HSE team and general mine management; Rössing Foundation
75			Site roads must be clearly demarcated and stringently enforced. All work areas need to be clearly demarcated and sign-posted. Any movements outside these marked areas will require special permission involving Rössing Uranium's environmental staff.	Contract term.	Without unwarranted exceptions.	Project recommendation; E9 – Environment Standard Land-Use Stewardship; Biodiversity Monitoring Programme. JA65/MSP/001 Monitoring and measurement; JA05/COP/003 Environmental Management System Code of Practice.	Physical verification	HSE Department
76	Overarching aspects: Biodiversity.	Limit disturbance to surrounding environment.	There will be zero tolerance of killing or collecting of any biodiversity (including the collection of wood).	Contract term.	Without exceptions.	Project Requirement.	Rössing Uranium's Environmental Officer, Contractor's Environmental Officer and Independent Environmental Auditor observation / physical verification	Contractor / Contractor's Environmental Officer
77			Limit the area of disturbance to what is absolutely necessary by scouting the area with the assistance of a biodiversity specialist to identify any protected or sensitive species for relocation and carry out the relocation operation. Special emphasis should be put on high-profile species such as <i>Acacia erioloba</i> , <i>Lithopsruschiorum</i> and <i>Adeniapechuelli</i> .	Contract term.	Without exceptions; Populations and individuals of all protected plants along the route of all linear infrastructures should be identified, marked and studiously avoided.	Project Recommendation.	Rössing Uranium's Environmental Officer, Contractor's Environmental Officer and Independent Environmental Auditor observation / physical verification	Contractor / Contractor's Environmental Officer

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78			If large trees are encountered, the area left undisturbed around the base of the tree must be wider than the aerial circumference of the tree.	Contract term.	Without exceptions.	Project Recommendation.	Rössing Uranium's Environmental Officer, Contractor's Environmental Officer and Independent Environmental Auditor observation / physical verification	Contractor / Contractor's Environmental Officer
79			A permit to remove and/or damage protected plants should be obtained, as should a collecting permit for plant rescue.	Contract term	Without exceptions; paper trail.	Project Requirement.	Rössing Uranium's Environmental Officer, Contractor's Environmental Officer and Independent Environmental Auditor observation / physical verification	Contractor / Contractor's Environmental Officer
80								
81		Prevent significant insect mortality.	Use of light is kept to a minimum, and where it is required, yellow lighting is used: vertebrates should be kept away from the lighted areas with appropriate fencing where feasible.	Contract term.	Without exceptions.	Project Requirement.	Rössing Uranium's Environmental Officer, Contractor's Environmental Officer and Independent Environmental Auditor observation / physical verification	Contractor / Contractor's Environmental Officer
82	Monitor	<b>Implement monitoring plan to monitor wildlife use of tributary valleys.</b>	Continual monitoring throughout the construction phase.	Monitoring undertaken during regular intervals.	Project Requirement.	Environmental Officer reports and paper trail	Environmental Officer	

ID	Aspect	Management Objective	Management Action	Action Frequency	Standard	Rössing Uranium HSE Reference	Indicator	Responsibility
85		biodiversity.	Monitor road kills to obtain data to determine the efficiency of speed limits in preventing road kills, particularly at night.	Driving route daily for a period of two years, after which the situation should be re-assessed.	Without exceptions; all road kill incidents recorded.	Project Requirement.	Rössing Uranium's Environmental Officer, Contractor's Environmental Officer and Independent Environmental Auditor observation / physical verification	Contractor / Contractor's Environmental Officer
86			Survey the area to log the location and type of natural water points (springs and seeps) and monitor the use of these resources by animals through spoor transects and installation of camera traps at the most important springs to be affected as well as two unaffected ones nearby.	Repeat spoor transects once a month for 12 months, thereafter once a quarter for the next year. This should be done for at least two years (including two dry and two "wet" seasons).	Data.	Project Requirement.	Rössing Uranium's Environmental Officer, Contractor's Environmental Officer and Independent Environmental Auditor observation / physical verification	Contractor / Contractor's Environmental Officer
87			Simultaneously to the previous study, do spoor transects in the tributaries and on both sides of the Khan River bridge route to quantify the frequency and extent of use of these watercourses by large mammals before and after construction of the road.	Repeat spoor transects once a month for 12 months, thereafter once a quarter for the next year. This should be done for at least two years (including two dry and two "wet" seasons).	Data.	Project Requirement.	Rössing Uranium's Environmental Officer, Contractor's Environmental Officer and Independent Environmental Auditor observation / physical verification	Contractor / Contractor's Environmental Officer
88			The following method statements are to be compiled by the Contractor and reviewed and approved by the Project Management Team:			Project Requirement.		
89	Overarching aspects: Potentially hazardous materials.	Appropriate storage, use and handling of hydrocarbons.	Location and layout of the construction camp, including hazardous material and fuel storage areas;	Within 14 days of arrival on site and before the commencement of construction of these items.	No building before approval.	JA50/PRC/001~ Purchasing of chemicals E9 - Environment Standard - Land-Use Stewardship; JE50/WMP/002~ Disposal and re-use of hydrocarbons.	Rössing Uranium's Environmental Officer reports and paper trail	Contractor / Contractor's Environmental Officer
90			Location and structure of the fuel storage area, including the type and volume of storage container and the design and capacity of the bund, and procedures for the filling and dispensing of fuel both at the fuel storage area and on site;			Project Requirement.		

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91			Solid waste (refuse) control and removal of waste from the site, including the number, type and location of rubbish bins, the manner and frequency with which the waste will be removed from site and a description of the identified disposal site; and			JA50/PRC/001~ Purchasing of chemicals E5 - Environment Standard - Hazardous Material and Contamination Control; E7 - Environment Standard - Non-Mineral Waste Management; JE50/WMP/015~ Disposal of oil trap residue to oil separation tank JE50/WMP/012~ Disposal of oil and diesel filters JE50/WMP/002~ Disposal and re-use of hydrocarbons JE50/WMP/006~ Disposal practice for the Rössing Uranium landfill site JK65/PRD/007~ Transport of Contaminated Items JK65/PRD/003~ Disposal of Contaminated Items		
92			Emergency procedures for spillages of hazardous substances.			JA15/MSP/006~ Hazard Identification, Risk Evaluation and Risk Management JH50/COP/013~ Storage of Flammable & Explosive Material JA70/MSP/010~ Reporting and Investigation of HSE incidents and/or non-conformances B4 - OH Standards - Hazardous substances; JA75/MSP/004~ Record-keeping Procedure E5 - Environment Standard - Hazardous Material and Contamination Control; JK65/PRD/007~ Transport of Contaminated Items JE50/WMP/010~ Procedure for action taken in the event of diesel or oil spillage.		
93			Ensure that all hazardous materials received are accompanied with a Materials Safety Data Sheet (MSDS). Display the MSDS for all hazardous materials stored in a conspicuous manner.	Contract term.	Without unwarranted exceptions; SDS displayed.	Project Requirement.	Physical verification and routine OHSEC monitoring and audit reports	Contractor
94			The type and quantity of all hazardous materials shall be documented in the inventory list.	Contract term.	Without unwarranted exceptions; inventory list up to date.	Project Requirement.	Physical verification and routine OHSEC monitoring and audit reports	Contractor
96			In the event that any hydrocarbon-based compound is dispensed from drums, the proper dispensing equipment shall be used, and the drum shall not be tipped in order to dispense fuel. The dispensing mechanism of the hydrocarbon storage drum shall be stored in a waterproof container when not in use.	Contract term / daily.	Without unwarranted exceptions. Spills are kept to a minimum.	JH50/COP/013~ Storage of Flammable & Explosive Material.	Physical verification and routine OHSEC monitoring and audit reports	Contractor

ID	Aspect	Management Objective	Management Action	Action Frequency	Standard	Rössing Uranium HSE Reference	Indicator	Responsibility
97			Unauthorised access into the fuel storage area shall be prevented by way of fencing and lockable gates.	Contract term / daily.	Without unwarranted exceptions.	JH50/COP/023~ 28.5(b) Appointment of Responsible persons JH50/COP/026~ Permit to Work and Clearances System JH50/COP/017~ Barricading and Demarcation JH50/COP/013~ Storage of Flammable & Explosive Material.	Physical verification and routine OHSEC monitoring and audit reports	Contractor
98			The Contractor shall ensure that there is always a supply of absorbent material readily available to absorb/breakdown and, where possible, be designed to encapsulate minor hydrocarbon spillage. The quantity of such materials shall be able to handle a minimum of 1000ℓ of hydrocarbon liquid spill. This material must be approved by the Project Manager prior to commencement of construction.	Contract term / weekly.	Without unwarranted exceptions.	JE50/WMP/002~ Disposal and re-use of hydrocarbons JE50/WMP/010~ Procedure for action taken in the event of diesel or oil spillage JE50/WMP/014~ Bioremediation of hydro-carbon contaminated soil and sludge.	Physical verification and routine OHSEC monitoring and audit reports	Contractor
99			The unopened storage containers shall be inspected regularly to ensure that no leakage occurs.	Ad hoc /daily.	Meets specifications, no evidence of leaks or spills.	JH50/COP/013~ Storage of Flammable & Explosive Material.	Physical verification and routine OHSEC monitoring and audit reports	Contractor's Environmental Officer / Rössing Uranium's Environmental Officer / Independent Environmental Auditor
100			Oil/curing compound shall be used in moderation and shall be applied under controlled conditions using appropriate equipment. The Contractor shall take all reasonable precautions to prevent accidental and incidental spillage during the application of these compounds.	Contract term / daily.	No or limited spillages.	JE50/WMP/010~ Procedure for action taken in the event of diesel or oil spillage.	Physical verification and routine OHSEC monitoring and audit reports	Contractor
101			In the event of oil/curing compound spill, the source of the spillage shall be isolated, and the spillage contained. The Contractor shall be required to clean up the spill, either by removing the contaminated soil or by the application of absorbent material in the event of a larger spill. Treatment and remediation of the spill area shall be undertaken. Emergency response plans needs to be displayed in easily accessible area.	Contract term /daily.	Without unwarranted exceptions.	JE50/WMP/010~ Procedure for action taken in the event of diesel or oil spillage.	Physical verification and routine OHSEC monitoring and audit reports	Contractor
102			The fuel storage area shall be equipped with the appropriate hazard and warning signage, no smoking or naked flame signs and will be equipped with the necessary fire fighting equipment.	Contract term / weekly.	Without unwarranted exceptions.	JH50/COP/013~ Storage of Flammable & Explosive Material.	Physical verification and routine OHSEC monitoring and audit reports	Contractor

ID	Aspect	Management Objective	Management Action	Action Frequency	Standard	Rössing Uranium HSE Reference	Indicator	Responsibility
103		Appropriate storage, use and handling of paints and solvents.	The Contractor shall ensure that the use of oil based paints, chemical additives, cleaners and other chemicals is strictly controlled, and that no contamination of the environment, particularly of drainage lines, occurs as a result of their use.	Contract term /daily.	Without unwarranted exceptions.	JK65/PRD/007~ Transport of Contaminated Items JK65/PRD/003~ Disposal of Contaminated Items JE50/WMP/006~ Disposal practice for the Rössing Uranium landfill site E7 - Environment Standard - Non-Mineral Waste Management;  E5 - Environment Standard - Hazardous Material and Contamination Control; JA50/PRC/001~ Purchasing of chemicals B4 - OH Standards - Hazardous substances; B1 - OH Standards - Particulate and gas or vapour exposures; JH50/COP/013~ Storage of Flammable & Explosive Material JH50/COP/031~ Personal Protective Equipment JH50/COP/024~ Induction JH50/COP/017~ Barricading and Demarcation JH50/COP/016~ Colour Coding.	Physical verification and routine OHSEC monitoring and audit reports	Contractor
104	Overarching aspects: Site workshop, wash bay and fuel stores.	Reduce the OHSEC impacts associated with the design and operation of a site workshop and associated facilities arising from the maintenance and operation of site plant and equipment.	The workshop shall have a smooth impermeable floor which shall be bunded and sloped towards a collection drain or sump, connected to an oil separator to contain any spillages.	Contract term/at commencement.	Without unwarranted exceptions.	SEMP Requirement; JE50/WMP/015~ Disposal of oil trap residue to oil separation tank JE50/WMP/014~ Bioremediation of hydro-carbon contaminated soil and sludge JE50/WMP/002~ Disposal and re-use of hydrocarbons.	Physical verification and routine OHSEC monitoring and audit reports	Contractor
105			The workshop shall be equipped with a wash bay, enclosed to prevent the loss of hydrocarbons and soap into the surrounding environment. The floor will be bunded and sloped and all waste water shall be fed through an oil separator before collection for disposal.	Contract term / at commencement / daily or ad hoc inspections.	Without unwarranted exceptions.	SEMP Requirement; JE50/WMP/015~ Disposal of oil trap residue to oil separation tank JE50/WMP/014~ Bioremediation of hydro-carbon contaminated soil and sludge JE50/WMP/002~ Disposal and re-use of hydrocarbons.	Physical verification and routine OHSEC monitoring and audit reports	Contractor
106			The refuelling deck is to have a collection sump linked to an oil separator.	Contract term / daily inspection.	Without unwarranted exceptions.	SEMP Requirement; JE50/WMP/015~ Disposal of oil trap residue to oil separation tank JE50/WMP/014~ Bioremediation of hydro-carbon contaminated soil and sludge JE50/WMP/002~ Disposal and re-use of hydrocarbons JH50/COP/013~ Storage of Flammable & Explosive Material.	Physical verification and routine OHSEC monitoring and audit reports	Contractor

ID	Aspect	Management Objective	Management Action	Action Frequency	Standard	Rössing Uranium HSE Reference	Indicator	Responsibility
107			The fuel storage area shall be located in a portion of the construction camp where it is unlikely to pose a significant risk in terms of water pollution or traffic safety.	Contract term /daily.	In the opinion of the Rössing Uranium's Environmental Officer, Contractor's Environmental Officer and Independent Environmental Auditor.	JA15/MSP/006~ Hazard Identification, Risk Evaluation and Risk Management JH50/COP/013~ Storage of Flammable & Explosive Material JH50/COP/025~ Safety Training Courses JH50/COP/023~ 28.5(b) Appointment of Responsible persons JH50/COP/017~ Barricading and Demarcation B4 - OH Standards - Hazardous substances; JE50/SOP/001~ Oil Separation Plant Operation JE65/OWM/004~ Water Quality Monitoring JE50/MSP/001~ Water Quality Management E5 - Environment Standard - Hazardous Material and Contamination Control; JE50/WMP/002~ Disposal and re-use of JE50/WMP/010~ Procedure for action taken in the event of diesel or oil spillage JE50/WMP/014~ Bioremediation of hydro-carbon contaminated soil and sludge.	Physical verification and routine OHSEC monitoring and audit reports Contractor Method statement	Contractor
108			The workshop area shall be equipped with a hydrocarbon spill kit capable of treating a 1000ℓ spill containing the necessary spark proof shovels, personal protective equipment, and sufficient collection vessels.	Contract term /daily.	Without unwarranted exceptions.	SEMP Requirement; JE50/WMP/010~ Procedure for action taken in the event of diesel or oil spillage.	Physical verification and routine OHSEC monitoring and audit reports	Contractor
109			The workshop and fuel storage area shall be equipped with adequate fire fighting equipment, suitable for the type and worst-case-scenario fire that may occur there.	Contract term / weekly.	Without unwarranted exceptions.	JH50/COP/013~ Storage of Flammable & Explosive Material JH50/COP/017~ Barricading and Demarcation.	Physical verification and routine OHSEC monitoring and audit reports	Contractor
110			The fuel storage area shall be fenced off and locked to ensure that no unauthorised entry can be gained. Appropriate safety and hazard warning signage shall be prominently displayed at the fuel storage area.	Contract term /daily.	Without unwarranted exceptions.	JH50/COP/013~ Storage of Flammable & Explosive Material JH50/COP/017~ Barricading and Demarcation.	Physical verification and routine OHSEC monitoring and audit reports	Contractor

ID	Aspect	Management Objective	Management Action	Action Frequency	Standard	Rössing Uranium HSE Reference	Indicator	Responsibility
111	Overarching aspects: Vehicle and machine maintenance.	Reduce the OHSEC risk associated with equipment or vehicles resulting in potential environmental damage.	All vehicles and equipment shall be kept in good working order to ensure efficiency and safety and minimise pollution and emissions.  All diesel powered equipment must be regularly maintained and kept at a high level of maintenance. This must particularly include the regular inspection and, if necessary, replacement of intake and exhaust silencers. Any change in the noise emission characteristics of equipment must serve as trigger for withdrawing it for maintenance.	Contract term /daily / ad hoc.	Without unwarranted exceptions.	Project requirement; C3 - Vehicles and Driving; JH50/COP/027~ Health & Safety off the Job.	Physical verification and routine OHSEC monitoring and audit reports	Contractor
112			All plant and equipment to be inspected daily by the operator to ensure fitness, all defects to be reported and repaired immediately. Leaking equipment shall be repaired immediately or removed from site.	Contract term /daily.	Without unwarranted exceptions.	C3 - Vehicles and Driving; JH50/COP/027~ Health & Safety off the Job.	Physical verification and routine OHSEC monitoring and audit reports	Contractor
113			Where practical, all maintenance of equipment and vehicles on site shall be performed in a workshop facility purposefully designed for the carrying out maintenance.	Contract term /daily.	Except when emergency maintenance is required in field.	Project Requirement.	Physical verification and routine OHSEC monitoring and audit reports	Contractor
114			If it is necessary to do maintenance outside of the workshop area, the Contractor shall obtain the approval of the Rössing Uranium's Environmental Officer prior to commencing activities. The Contractor shall ensure that in his workshop and at other equipment maintenance facilities, including those areas where, after obtaining the Rössing Uranium's Environmental Officer's approval, the Contractor carries out emergency equipment maintenance, there is no contamination of the soil or vegetation.	Contract term /daily.	Without unwarranted exceptions.	JE50/WMP/014~ Bioremediation of hydro-carbon contaminated soil and sludge JE50/WMP/010~ Procedure for action taken in the event of diesel or oil spillage JK65/PRD/003~ Disposal of Contaminated Items E5 - Environment Standard - Hazardous Material and Contamination Control .	Physical verification and routine OHSEC monitoring and audit reports	Contractor
115			When servicing equipment on site, portable drip trays shall be used to collect the waste oil and other lubricants. Drip trays shall also be provided in construction areas for stationary equipment (such as compressors) and for parked mobile plant (such as excavators, loaders and cranes).	Contract term /daily.	Without unwarranted exceptions.	JE50/WMP/014~ Bioremediation of hydro-carbon contaminated soil and sludge JE50/WMP/010~ Procedure for action taken in the event of diesel or oil spillage JK65/PRD/003~ Disposal of Contaminated Items E5 - Environment Standard - Hazardous Material and Contamination Control JE50/WMP/002~ Disposal and re-use of hydrocarbons E7 - Environment Standard - Non-Mineral Waste Management; JE50/WMP/012~ Disposal of oil and diesel filters.	Physical verification and routine OHSEC monitoring and audit reports	Contractor

ID	Aspect	Management Objective	Management Action	Action Frequency	Standard	Rössing Uranium HSE Reference	Indicator	Responsibility	
116			Drip trays shall be inspected and emptied daily. Drip trays shall be closely monitored during rain events to ensure that they do not overflow.	Contract term /daily.	Without unwarranted exceptions.	JE50/WMP/015~ Disposal of oil trap residue to oil separation tank JE50/WMP/002~ Disposal and re-use of hydrocarbons E5 - Environment Standard - Hazardous Material and Contamination Control.	Physical verification and routine OHSEC monitoring and audit reports	Contractor	
117			The washing of equipment outside of the wash bay facility located near the workshop shall be restricted to urgent or preventative maintenance requirements only and is subject to the Rössing Uranium's Environmental Officer's approval.	Contract term /ad hoc.	Without unwarranted exceptions.	JE50/WMP/015~ Disposal of oil trap residue to oil separation tank JE50/WMP/002~ Disposal and re-use of hydrocarbons E5 - Environment Standard - Hazardous Material and Contamination Control.	Physical verification and routine OHSEC monitoring and audit reports	Contractor	
118		Limiting OHSEC impacts associated with the position and layout of the concrete batching plant.	The sighting of batching plants shall take cognisance of the requirements of this Specification and shall be subject to the Project Manager's approval of a batch plant layout and operations method statement.	Once off.	In the opinion of the Rössing Uranium's Environmental Officer and Project manager through review and approval of the method statement.	Project Requirement.	Physical verification and routine OHSEC monitoring and audit reports	Contractor / Contractor's Environmental Officer	
119			The sighting of the batching plant shall be such to reduce the extent of earthworks required to achieve a suitably level platform.	Once off.	Without unwarranted exceptions.	E9 - Environment Standard - Land-Use Stewardship; JA05/COP/003~ Environmental Management System Code of Practice.	Physical verification and routine OHSEC monitoring and audit reports	Contractor	
120	Overarching aspects: Establishment and operation of a concrete batching plant, concrete mixing, pouring and associated activities (IF REQUIRED).	Limiting potential environmental pollution by concrete, sand, aggregates, additives and associated chemicals.	No batching activities shall occur directly on unprotected ground. Batching plants shall be located on a smooth impermeable surface (concrete or 250µm plastic covered with 5cm of sand).	Contract term /daily.	Without unwarranted exceptions.	E5 - Environment Standard - Hazardous Material and Contamination Control; E7 - Environment Standard - Non-Mineral Waste Management; E10 - Environment Standard - Water Use and Quality Control; JE50/MSP/001~ Water Quality Management.	Physical verification and routine OHSEC monitoring and audit reports	Contractor	
121				Empty cement bags shall be stored in weather-proof containers to prevent windblown cement dust and water contamination. Empty cement bags shall be disposed of on a regular basis via the solid waste management system, and shall not be used for any other purpose. Unused cement bags shall be stored so as not to be affected by rain or runoff events.	Contract term /daily.	Without unwarranted exceptions.	JE50/WMP/006~ Disposal practice for the Rössing Uranium landfill site JA05/COP/003~ Environmental Management System Code of Practice E7 - Environment Standard - Non-Mineral Waste Management.	Physical verification and routine OHSEC monitoring and audit reports	Contractor
122				The Contractor shall ensure that sand, aggregate, cement or additives used during the mixing process are contained and covered to prevent contamination of the surrounding environment.	Contract term /daily.	Without unwarranted exceptions.	Project Requirement.	Physical verification and routine OHSEC monitoring and audit reports	Contractor
123				Sand stockpiles shall be protected from the dispersive effects of the wind, causing dust, by watering of stockpiles or use of wind suitable wind barriers.	Contract term / ad hoc.	Without unwarranted exceptions.	Project Requirement.	Physical verification and routine OHSEC monitoring and audit reports	Contractor

ID	Aspect	Management Objective	Management Action	Action Frequency	Standard	Rössing Uranium HSE Reference	Indicator	Responsibility
124			The Contractor shall take all reasonable measures to prevent the spillage of cement/concrete during batching and construction operations. During pouring, the soil surface shall be protected using plastic and all visible remains of concrete shall be physically removed on completion of the cement/ concrete pour and appropriately disposed of.	Contract term /daily.	Without unwarranted exceptions.	E7 - Environment Standard - Non-Mineral Waste Management; JE50/WMP/006~ Disposal practice for the Rössing Uranium landfill site JA05/COP/003~ Environmental Management System Code of Practice JK65/PRD/003~ Disposal of Contaminated Items; JK65/PRD/007~ Transport of Contaminated Items.	Physical verification and routine OHSEC monitoring and audit reports	Contractor
125			All spoiled and excess aggregate/cement/concrete shall be removed and disposed of via the solid waste management system, should re-use not be possible.	Contract term / ad hoc.	Without unwarranted exceptions.	JE50/WMP/006~ Disposal practice for the Rössing Uranium landfill site.	Physical verification and routine OHSEC monitoring and audit reports	Contractor
126			Cement trucks and cement mixers shall not discharge any concrete wash directly onto the ground. The Contractor shall submit a method statement for the consideration and approval of the Project Management Team.	Contract term /daily.	Without unwarranted exceptions.	Project Requirement.	Physical verification and routine OHSEC monitoring and audit reports	Contractor
127			All concrete additives, curing compounds, shutter oils and other additives used in the process shall be stored in weather proof areas at the batching plant. Containers or drums shall be stored inside a bunded area and any leaks and spills shall be cleared immediately.	Contract term /daily.	Without unwarranted exceptions.	E7 - Environment Standard - Non-Mineral Waste Management; JA05/COP/003~ Environmental Management System Code of Practice JE50/WMP/006~ Disposal practice for the Rössing Uranium landfill site JK65/PRD/003~ Disposal of Contaminated Items; JK65/PRD/007~ Transport of Contaminated Items B4 - OH Standards - Hazardous substances; JA50/PRC/001~ Purchasing of chemicals E5 - Environment Standard - Hazardous Material and Contamination Control; JE50/WMP/002~ Disposal and re-use of hydrocarbons.	Physical verification and routine OHSEC monitoring and audit reports	Contractor
128	Overarching aspects: Dust Control.	To maintain a safe working environment, minimise	Contractor to compile and submit a method statement regarding the control of dust within the designated construction site.	Contract commencement.	Without unwarranted exceptions.	B1 - OH Standards - Particulate and gas or vapour exposures; B10 - OH Standards - Occupational exposure limits.	Verify paperwork	Contractor / Contractor's Environmental Officer

ID	Aspect	Management Objective	Management Action	Action Frequency	Standard	Rössing Uranium HSE Reference	Indicator	Responsibility
129		nuisance for surrounding residential areas, prevent damage to the natural vegetation of the area and protect topsoil.	There shall be sufficient water tankers of adequate capacity to enable the dampening of all working areas and access/haul roads as frequently as required. During high wind conditions, the Contractor shall comply with the Project Manager's instructions regarding additional dust-dampening measures.	Contract term / hourly or as dictated by climatic conditions.	Dust levels are maintained within the standard.	B1 - OH Standards - Particulate and gas or vapour exposures; B10 - OH Standards - Occupational exposure limits.	Physical verification and routine OHSEC monitoring and audit reports	Contractor
130		Prevent an increase in PM10 concentrations during land clearing activities such as bulldozing and scraping of road.	Water sprays at area to be cleared.	Contract term /daily.		Project requirement; B10 - OH Standards - Occupational exposure limits.	Physical verification and routine OHSEC monitoring and audit reports	Contractor
131			Ensure travel distance between clearing area and topsoil piles to be at a minimum.	Contract term /daily.		Project requirement; B10 - OH Standards - Occupational exposure limits.	Physical verification and routine OHSEC monitoring and audit reports	Contractor
132	Overarching aspects: Vehicle Emissions.	Reduce unnecessary greenhouse gas emissions by poorly maintained or malfunctioning plant and equipment.	All vehicles and equipment shall be kept in good working order and serviced regularly.	Contract term/daily.	Without unwarranted exceptions.	C3 - Vehicles and Driving; E2 - Environment Standard - Air Quality Control; E4 - Environment Standard - Greenhouse Gas Emissions.	Physical verification and routine OHSEC monitoring and audit reports	Contractor
133		Verification of adherence to specified requirements in terms of dust prevention and control.	Vehicles noticeably emitting excessive fumes will not be permitted to continue working on site.	Contract term/ad hoc.	Without unwarranted exceptions.	C3 - Vehicles and Driving.	Physical verification and routine OHSEC monitoring and audit reports	Contractor

ID	Aspect	Management Objective	Management Action	Action Frequency	Standard	Rössing Uranium HSE Reference	Indicator	Responsibility
134	Overarching aspects: Noise.	Noise prevention and reduction.	Appropriate directional and intensity settings are to be maintained on all hooters and sirens, and the Contractor shall provide and use suitable and effective silencing devices for pneumatic tools and other plant equipment to reduce noise levels associated with his activities.	Contract term/daily/ad hoc.	Without unwarranted exceptions.	Project requirement; C3 - Vehicles and Driving; JH50/COP/023~ 28.5(b) Appointment of Responsible persons JH50/COP/031~ Personal Protective Equipment JH50/COP/031~ Personal Protective Equipment B10 - OH Standards - Occupational exposure limits; B2 - OH Standards - Hearing conservation; JA65/MSP/001~ Monitoring and Measurement JA45/MSP/002~ Communication and Reporting JA40/MSP/003~ Document Control Procedure JA75/MSP/004~ Record-keeping Procedure JA45/MSP/007~ External Communications/Complaints JK65/PRC/003~ Area Noise Survey E6 - Environment Standard - Noise and Vibration Control.	Physical verification and routine OHSEC monitoring and audit reports	Contractor
135			The Contractor shall not use sound amplification equipment on site other than in emergencies.	Contract term/daily/ad hoc.	Without unwarranted exceptions.	B10 - OH Standards - Occupational exposure limits; B2 - OH Standards - Hearing conservation; JA65/MSP/001~ Monitoring and Measurement JA65/MSP/001~ Monitoring and Measurement JA45/MSP/007~ External Communications/Complaints JK65/PRC/003~ Area Noise Survey E6 - Environment Standard - Noise and Vibration Control.	Physical verification and routine OHSEC monitoring and audit reports	Contractor
136			The Contractor shall ensure that OHSEC awareness and training for all employees includes the need to minimise noise.	Contract term/daily.	Without unwarranted exceptions.	JH50/COP/024~ Induction JA30/MSP/013~ Identification of training needs and training methods.	OHSEC course syllabus contained in approved method statement	Contractor

ID	Aspect	Management Objective	Management Action	Action Frequency	Standard	Rössing Uranium HSE Reference	Indicator	Responsibility
137		Noise monitoring.	<p>It is recommended that a noise management zone of 2.8km be considered around the infrastructure corridor. This area corresponds to the area over which noise levels may result in annoyance i.e. complaints and occasional community action. Noise levels in this area should be monitored and results communicated to interested and affected parties.</p> <p>Ambient noise will be measured during construction, operational and decommissioning phase at Arandis, the Arandis airport, the Khan Mine and at various locations within the Khan River valley.</p> <p>The frequency of noise monitoring will be done as follows:</p> <p>-LAeq (1 hour) between 07:00 and 22:00</p> <ul style="list-style-type: none"> <li>One campaign during the construction of the transfer terminal</li> <li>One campaign during the construction of infrastructure within the Khan River valley</li> <li>One campaign per year of operation</li> </ul> <p>-LAeq (1 hour) between 22:00 and 07:00</p> <ul style="list-style-type: none"> <li>One campaign per year of operation</li> </ul> <p>-LZeq (T) during a blast event</p> <ul style="list-style-type: none"> <li>During as many blast events as possible but at least 2 campaigns</li> </ul> <p>-3rd Octave band frequency spectrum</p> <ul style="list-style-type: none"> <li>During every campaign.</li> </ul>	Contract term/daily.	Without unwarranted exceptions.	Project requirement; JH50/COP/024~ Induction JA30/MSP/013~ Identification of training needs and training methods.	OHSEC course syllabus contained in approved method statement	Contractor
138		Protection of workers against the harmful effects of excessive noise.	The Contractor shall provide suitable hearing protection to all staff and others entering areas with high noise levels. Zones of risk shall be clearly identified with warning signs.	Contract term/daily.	Without unwarranted exceptions.	JH50/COP/025~ Safety Training Courses JH50/COP/031~ Personal Protective Equipment JA65/MSP/001~ Monitoring and Measurement JH50/COP/023~ 28.5(b) Appointment of Responsible persons JH50/COP/031~ Personal Protective Equipment.	Physical verification and routine OHSEC monitoring and audit reports	Contractor
139	Overarching aspects: Lighting	Reduce the visual intrusion caused by excessive lighting	Lighting installed on the site does not interfere with road traffic or cause a reasonably avoidable disturbance to indigenous fauna, surrounding communities or other users of the area.	Contract term/ad hoc.	In the opinion of the Contractor's Environmental Officer, Rössing Uranium's Environmental Officer and Independent Environmental Auditor.	Project Requirement.	Physical verification and routine OHSEC monitoring and audit reports	Contractor140
140			Floodlighting or up-lighting of structures or large areas shall not be permitted.	Contract term/ad hoc.	Excepting with project manager's consent where up lighting may be required to ensure safety of specific tasks.	Project Requirement.	Physical verification and routine OHSEC monitoring and audit reports	Contractor
141			Lighting shall be limited to the minimum required to ensure that work can be undertaken safely.	Contract term/daily.	Minimum requirements of the applicable health and safety legislation.	C4 – Working at Heights.	Physical verification and health and safety officers	Contractor

ID	Aspect	Management Objective	Management Action	Action Frequency	Standard	Rössing Uranium HSE Reference	Indicator	Responsibility
142			Use Mesopic LED lighting that is downward-directional and side-screened for the conveyor turning points.	Contract term/ad hoc.	Excepting with project manager's consent where other lighting may be required to ensure safety of specific tasks.	Project Requirement.	Physical verification and routine OHSEC monitoring and audit reports	Contractor
143	Overarching aspects: Site demarcation and establishment of the Contractor's camp.	Ensuring adequate planning is given to the layout and functioning of site establishment areas.	The Contractor or site camp management contractor shall inform the Project Manager of the intended actions and programme for site establishment and of the proposed location of the construction camp/s and provide him/ her with a plan showing the layout of the construction camp, including the positions of all buildings, stockpile and lay down areas, vehicle wash and service areas, fuel storage areas, batching areas and other infrastructure.	Contract commencement.	Without unwarranted exceptions and as per approved method statement.	Project Requirement.	Physical verification and routine OHSEC monitoring and audit reports and method statement	Contractor14414
144			The site layout shall be planned to facilitate ready access for deliveries, facilitate future works and to curtail any disturbance or security implications for neighbours and the Rössing Mine operation. The final site camp layout shall be subject to the Project Manager's approval, which shall not be unreasonably withheld.	Contract commencement.	Without unwarranted exceptions and as per approved method statement.	JA05/COP/003~ Environmental Management System Code of Practice E9 - Environment Standard - Land-Use Stewardship.	Physical verification and routine OHSEC monitoring and audit reports and method statement	Contractor
145		All areas under the Contractor's control should have as small a footprint as possible, after making necessary provisions for safety and social requirements and taking cognisance to avoid previously undisturbed areas.	Contract commencement.	As per approved method statement.	JA05/COP/003~ Environmental Management System Code of Practice E9 - Environment Standard - Land-Use Stewardship.	Physical verification and routine OHSEC monitoring and audit reports and method statement	Contractor	
146		Site demarcation to limit the spatial extent over which the Contractor will have influence and the protection of environmentally significant areas.	Site demarcation fences shall be installed before any construction activity will be allowed to commence. All work areas need to be clearly demarcated and sign-posted. Any movements outside these marked areas will require special permission involving Rössing Uranium's environmental staff. Further, waste and pollution management, water, and energy usage will need to follow established procedures.	Contract commencement.	Without unwarranted exceptions.	JH50/COP/017~ Barricading and Demarcation C3 - Vehicles and Driving.	Physical verification and routine OHSEC monitoring and audit reports	Contractor
147		The Contractor shall maintain in good order all demarcation fencing and barriers for the duration of construction activities, or as otherwise instructed by the Project Manager. This shall entail fencing of the construction site, within the Mine premises as well as fencing of construction camp areas.	Contract term.	According to technical specifications and approved method statement.	JH50/COP/017~ Barricading and Demarcation.	Physical verification Physical verification and routine OHSEC monitoring and audit reports	Contractor	
148			Unless otherwise agreed to by the Project Manager, the Contractor shall ensure that all activities are restricted to within the defined Working Area. The areas outside of the defined Working Area as well as any other areas identified by the Project Manager in the Specification shall be regarded as exclusion areas. Insofar as one has the authority, the Contractor shall ensure that no unauthorised entry, stockpiling, dumping, or storage of equipment, plant, or materials shall be allowed within the exclusion areas.	Contract term/daily.	Without unwarranted exceptions.	JH50/COP/017~ Barricading and Demarcation JH50/COP/024~ Induction JA45/MSP/007~ External Communications/Complaints JA70/MSP/010~ Reporting and Investigation of HSE incidents and/or non-conformances JA05/COP/003~ Environmental Management System Code of Practice JH50/COP/026~ Permit to Work and Clearances System.	Physical verification and routine OHSEC monitoring and audit reports	Contractor

ID	Aspect	Management Objective	Management Action	Action Frequency	Standard	Rössing Uranium HSE Reference	Indicator	Responsibility
149			The Project Manager with the assistance of the Rössing Uranium's Environmental Officer may also identify sensitive or special features inside the Working Area as exclusion areas.	Contract commencement/ad hoc.	As per approved method statement.	Project Requirement.	Physical verification and routine OHSEC monitoring and audit reports	Rössing Uranium's Environmental Officer / Project Manager
150		Limit the OHSEC impact associated with the establishment of site structures in the Contractor's camp.	All site structures shall be of a temporary nature and shall be removed at the end of the contract. All site establishment components (as well as equipment) shall be located within previously disturbed areas, where possible, and shall be positioned to limit visual intrusion on neighbours and to limit the extent of the area disturbed.	Contract term/ad hoc.	Limited disturbance of Contractor's camp site, as per approved method statement.	JH50/COP/016~ Colour Coding C2 - Electrical Safety; E9 - Environment Standard - Land-Use Stewardship; JA05/COP/003~ Environmental Management System Code of Practice.	Physical verification, approved method statement and routine OHSEC monitoring and audit reports.	Contractor and Project Manager
151	Where Contractor's camp is located within a vegetated zone, efforts to rescue and transplant key species should be undertaken.		Contract term/ad hoc.	All shrubs within footprint area and topsoil removed to stockpile / transplant area.	Project Requirement.	Physical verification and routine OHSEC monitoring and audit reports	Contractor, HSE department 152 153	
152	The Contractor shall limit, as far as practical, the extent of earthworks required for the establishment of the camp area.		Contract term/daily/ad hoc.	Limited disturbance in the opinion of the Project Manager, Contractor's Environmental Officer, Rössing Uranium's Environmental Officer and Independent Environmental Auditor.	Project Requirement.	Physical verification and routine OHSEC monitoring and audit reports	Contractor	
153	The Contractor shall ensure that access to the site and associated infrastructure and equipment is controlled throughout the construction period.		Contract term/daily/ad hoc.	Without unwarranted exceptions or incident.	Project Requirement.	Physical verification and routine OHSEC monitoring and audit reports and public complaints register	Contractor	
154		Reducing health and safety and security risks associated with unauthorised access to the construction site.	The Contractor shall implement the necessary gates, booms, access control points, guard houses to ensure access control and security of the site is maintained.	Contract term / daily.	Without unwarranted exceptions or incident.	JH50/COP/026~ Permit to Work and Clearances System JH50/COP/031~ Personal Protective Equipment JH50/COP/024~ Induction JH50/COP/017~ Barricading and Demarcation.	Physical verification and routine OHSEC monitoring and audit reports	Contractor
155	No person shall be allowed into the construction areas without having undergone the necessary OHSEC induction or being escorted by a senior staff member from the Contractor's staff.		Contract term / daily.	Without unwarranted exceptions or incident.	JH50/COP/026~ Permit to Work and Clearances System JH50/COP/031~ Personal Protective Equipment JH50/COP/024~ Induction JH50/COP/017~ Barricading and Demarcation.	Physical verification and routine OHSEC monitoring and audit reports	Contractor	
156	All authorised site personal shall carry an identification card issued by the Contractor, and all authorised vehicles, equipment, and plant shall have an identification sticker.		Contract term / daily.	Without unwarranted exceptions or incident.	JH50/COP/026~ Permit to Work and Clearances System JH50/COP/031~ Personal Protective Equipment JH50/COP/024~ Induction JH50/COP/017~ Barricading and Demarcation.	Physical verification as part of routine OHSEC monitoring and audit reports	Contractor	

ID	Aspect	Management Objective	Management Action	Action Frequency	Standard	Rössing Uranium HSE Reference	Indicator	Responsibility
157	Overarching aspects: Erosion sedimentation control.	Erosion sedimentation control.	Take all reasonable measures to limit erosion and sedimentation due to the construction activities and shall include in the design of the site works measures to prevent such occurrences. The Works shall be undertaken in a phased manner, and development staged so that stripped areas are kept to a minimum. The Contractor shall ensure that the stabilisation of cleared areas is actively managed in order to prevent and control erosion.	Contract term / daily / ad hoc.	Without unwarranted exceptions.	Project Requirement.	Physical verification and routine OHSEC monitoring and audit reports	Contractor
158			Erosion shall not be allowed to develop on a large scale before repairs are affected and all erosion damage shall be repaired as soon as it has been detected. In this regard, any runnels or erosion channels that develop during the construction shall immediately be backfilled and compacted and the areas restored to a proper stable condition.	Contract term / ad hoc.	Without unwarranted exceptions.	Project Requirement.	Physical verification and routine OHSEC monitoring and audit reports.	Contractor
159			The landscaping and rehabilitation of disturbed areas shall occur as soon as practically possible following the cessation of the work in a specific area. In this regard, the Contractor's Works Programme shall clearly indicate that the rehabilitation will immediately be executed, per phase, upon the completion of the works within a specific area. Traffic and movement over stabilised areas shall be restricted and controlled, and damage to stabilised area shall be repaired and maintained to the satisfaction of the Project Manager.	Ad hoc.	Without unwarranted exceptions .	JA75/MSP/004~ Record-keeping Procedure JE50/MSP/001~ Water Quality Management JA05/COP/003~ Environmental Management System Code of Practice E9 - Environment Standard - Land-Use Stewardship; JA65/MSP/001~ Monitoring and Measurement.	Physical verification and routine OHSEC monitoring and audit reports	Contractor
160			Topsoil and any other loose stockpiled material shall be stockpiled with consideration for the prevailing wind direction and, if required, additional windbreaks or other mechanisms to protect such material from dispersion by wind shall be instated at the request of the Project Manager.	Contract term / ad hoc.	No visible dust leaving stockpiles.	Project Requirement.	Physical verification and routine OHSEC monitoring and audit reports.	Contractor
161			River crossings and the areas adjacent to the access roads will be checked following rain for erosion and remedial action taken as required.	Contract term / ad hoc.	Without unwarranted exceptions; eroded areas remediated.	Project Requirement.	Physical verification and routine OHSEC monitoring and audit reports.	Contractor
162	Overarching aspects: Stockpiling, storage and staging of inert construction materials.	Minimise the potential negative OHSEC impacts arising from the stockpiling of various inert construction materials.	All materials shall be stored within the demarcated construction camp or batching areas. Where this is not feasible, the Project Manager will identify additional sites for stockpiling within the Working Area. Where possible, material stockpiles should be placed so as to protect site boundaries from noise of individual operations. If a stockpile is constructed, it should be at a position and of such a height as to effectively act as a barrier to site noise at any sensitive area, if the line of sight calculations show this to be practicable. In particular, the erection of suitable earth berms around the permanent machinery can significantly reduce the noise by up to 15 dB.	Contract term / daily.	Without unwarranted exceptions or incident and as per approved method statement or Project Manager site instruction. All material to reside in permanent stockpile place to buffer noise during operational phase.	JH50/COP/017~ Barricading and Demarcation JH50/COP/023~ 28.5(b) Appointment of Responsible persons JH50/COP/024~ Induction.	Physical verification and routine OHSEC monitoring and audit reports	Contractor163
163			Soil, sand, and gravel stockpiles shall be convex in shape, shall be no higher than 2m, and shall be located so as to cause minimal disturbance. Stockpiles shall be so placed as to occupy the minimum width compatible with the natural angle of repose of the material, and measures shall be taken to prevent the material from being spread over too wide a surface.	Contract term / ad hoc.	Without unwarranted exceptions and in the opinion of the Contractor's Environmental Officer , Rössing Uranium's Environmental Officer and Independent Environmental Auditor.	Project Requirement.	Physical verification and routine OHSEC monitoring and audit reports.	Contractor

ID	Aspect	Management Objective	Management Action	Action Frequency	Standard	Rössing Uranium HSE Reference	Indicator	Responsibility
164			Material shall be stockpiled with consideration for the prevailing wind directions and velocities and, if required, additional windbreaks or other mechanisms to protect such material from dispersion by wind shall be instated at the request of the Project Manager.	Contract term / ad hoc.	Without unwarranted exceptions and in the opinion of the Contractor's Environmental Officer , Rössing Uranium's Environmental Officer and Independent Environmental Auditor.	Project Requirement.	Physical verification and routine OHSEC monitoring and audit reports. Dust monitoring data	Contractor
165			The limits of the stockpiling or staging areas are to be demarcated and regular inspection shall occur to ensure that materials are being contained within the allocated areas. The Contractor excises control over such areas and not allow delivery drivers dictate the stockpiling layout.	Contract term / ad hoc.	Without unwarranted exceptions and in the opinion of the Contractor's Environmental Officer , Rössing Uranium's Environmental Officer and Independent Environmental Auditor. All vehicle delivery drivers to be issued with rules on entering the site and the actions to be supervised.	JH50/COP/017~ Barricading and Demarcation JH50/COP/023~ 28.5(b) Appointment of Responsible persons JH50/COP/024~ Induction JA70/MSP/010~ Reporting and Investigation of HSE incidents and/or non-conformances.	Physical verification and routine OHSEC monitoring and audit reports	Contractor and Contractor's Environmental Officer / Rössing Uranium's Environmental Officer / Independent Environmental Auditor
166			Stockpile areas shall be regularly inspected for appropriate housekeeping practices as well as associated health and safety aspects.	Contract term / weekly / ad hoc.	Without unwarranted exceptions and in the opinion of the Contractor's Environmental Officer , Rössing Uranium's Environmental Officer and Independent Environmental Auditor.	JA05/COP/003~ Environmental Management System Code of Practice.	Physical verification and routine OHSEC monitoring and audit reports	Contractor's Environmental Officer / Rössing Uranium's Environmental Officer / Independent Environmental Auditor and relevant health and safety officers
167	Overarching aspects: Ablution facilities.	Reduce health risks and environmental pollution arising from a concentration of human excreta in the environment.	The contractor shall provide adequate ablution facilities, including a changing room with warm-water showers, for staff in the construction camp. Mobile chemical toilets shall be provided at all other locations within the Working Area, as directed by the Project Manager. Acts of excretion and urination are strictly prohibited other than at the facilities provided.	Contract term / daily / ad hoc.	Without unwarranted exceptions and in the opinion of the Contractor's Environmental Officer , Rössing Uranium's Environmental Officer and Independent Environmental Auditor.	JE65/OWM/003~ Sewage Plant Monitoring JE50/SOP/003~ Sewage Plant Operation.	Physical verification and routine OHSEC monitoring and audit reports	Contractor and Contractor's Environmental Officer / Rössing Uranium's Environmental Officer / Independent Environmental Auditor and relevant health and safety officers
168			The Contractor shall not install pit latrines or septic tanks for the ablution facilities at the Construction Camp. Where mobile chemical toilets are utilised, the Contractor shall ensure the following:	Contract term / daily / ad hoc.	Without unwarranted exceptions and in the opinion of the Contractor's Environmental Officer , Rössing Uranium's Environmental Officer and Independent Environmental Auditor.	Project Requirement.	Physical verification and routine OHSEC monitoring and audit reports	Contractor and Contractor's Environmental Officer / Rössing Uranium's Environmental Officer / Independent Environmental Auditor and relevant health and
169			Toilets shall be located within 100 m from any point of work but no closer than 50 m to any watercourse or water body;					
170			Toilets shall be secured to the ground to prevent them from toppling due to wind or any other cause;					
171			No spillage shall occur when the toilets are cleaned or emptied and the contents shall be properly stored and transported to the sewage treatment works;					

ID	Aspect	Management Objective	Management Action	Action Frequency	Standard	Rössing Uranium HSE Reference	Indicator	Responsibility	
172	Overarching aspects: Eating or recess areas.	Reduce littering, health risks associated with contamination of foodstuff, ecological implications associated with food spillage, preventing the dispersion of workers during recesses.	Discharge of waste from toilets into the environment and burial of waste is strictly prohibited;			Project Requirement.		safety officers	
173			Toilets shall be provided with an external closing mechanism to prevent toilet paper from being blown out; and			Project Requirement.			
174			Toilets shall be emptied before long weekends and builders' holidays, and shall be locked after working hours.			Project Requirement.			
175				All ablution facilities are to be serviced regularly and kept in a clean and hygienic fashion.	Contract term / daily / ad hoc.	Without unwarranted exceptions and in the opinion of the Contractor" Environmental Officer ,Rössing Uranium's Environmental Officer, Independent Environmental Auditor and Health and safety officer.	Project Requirement.	Physical verification and routine OHSEC monitoring and audit reports	Contractor and Contractor's Environmental Officer / Rössing Uranium's Environmental Officer / Independent Environmental Auditor and relevant health and safety officers
176				The Contractor shall erect designated shaded eating or recess areas for staff at all suitable locations, close to each of the major works areas, to be agreed with the Project Manager.	Contract commencement.	As per approved method statement.	Project Requirement.	Physical verification and as per the approved method statement	Contractor
177				Eating or recess areas shall be constructed and equipped to meet the following requirements:	Contract commencement / Contract term / daily / ad hoc.	In a satisfactory state in the opinion of the Contractor's Environmental Officer , Rössing Uranium's Environmental Officer, Independent Environmental Auditor and Health and safety officer.	Project Requirement.	Physical verification and routine OHSEC monitoring and audit reports	Contractor and Contractor's Environmental Officer / Rössing Uranium's Environmental Officer / Independent Environmental Auditor and relevant health and safety officers
178			Recess areas are to be sufficiently sized to comfortably accommodate the maximum number of staff working within the given working area;	Project Requirement.					
179			Eating or recess areas shall be situated as close to the respective working areas whilst being sufficiently offset or positioned to offer occupants protection from construction noise and dust;	Project Requirement.					
180			Tables and seating with adequate care for ergonomic design must be provided;	Project Requirement.					
181			The eating area is to be completely shaded and protected from prevailing winds;	Project Requirement.					
182			A sufficient amount of potable water and soap shall be stationed at the eating area to allow for washing of hands and drinking;	Project Requirement.					
183			Drinking water shall be maintained at a suitable temperature for consumption;	JK65/COP/005~ Heat Stress.					
184			Ablution facilities shall be located within 50m of the recess area but not closer than 15m;	Project Requirement.					
185			Recess areas shall have a staff information board, providing pertinent information, awareness materials and information posters;	Project Requirement.					
186			The eating area shall be fitted with a fire extinguisher;	Project Requirement.					
187			Recess areas shall make provisions for a smoking area. Smoking will not be permitted anywhere else on the site; and	Project Requirement.					
188			Recess areas shall receive daily maintenance and cleaning, all rubbish bins are to be emptied daily to the central waste storage area.	Project Requirement.					

ID	Aspect	Management Objective	Management Action	Action Frequency	Standard	Rössing Uranium HSE Reference	Indicator	Responsibility
189			Any cooking on site shall be done on well-maintained gas cookers with fire extinguishers present. No cooking shall be permitted to occur on open fires.			Project Requirement.		
190			All food preparation areas, stores and kitchen layouts (including food waste handling areas) shall be inspected at routine intervals to ensure they are maintained in a hygienic condition and compliant with the relevant statutory requirements for such installations.	Monthly inspections.	Relevant statutory requirements.	Project requirement.	Physical verification and routine OHSEC monitoring and audit reports	Contractor's Environmental Officer / Rössing Uranium's Environmental Officer / Independent Environmental Auditor
191	Overarching aspects: Water Use.	Reduce the volume of water needed for construction purposes.	Water is a scarce resource in Namibia and shall be conserved wherever possible. The Contractor shall minimise the use of water and shall immediately attend to any wastage. The Contractor shall be required to adhere to Rössing Uranium's water management strategies.	Contract term / daily / ad hoc.	Satisfactory in the opinion of the Contractor's Environmental Officer , Rössing Uranium's Environmental Officer and Independent Environmental Auditor .	JE65/OWM/004~ Water Quality Monitoring JE50/MSP/001~ Water Quality Management JE50/MSP/002~ Freshwater Supply Management JE50/OWM/003~ Water Recycling and Re-Use E10 - Environment Standard - Water Use and Quality Control; JA65/MSP/001~ Monitoring and Measurement JA45/MSP/002~ Communication and Reporting.	Physical verification and routine OHSEC monitoring and audit reports. Water usage stats as part of Contractor's submissions	Contractor
192	Overarching aspects: Solid Waste Management.	Ensure the appropriate handling and storage and disposal of waste and reducing the likelihood of environmental pollution.	The management of solid waste on site shall be strictly controlled and monitored. The quantities of waste generated on site shall be minimised. Littering shall be avoided.	Contract term / daily.	Without unwarranted exceptions or incident.	JA65/MSP/001~ Monitoring and Measurement JA45/MSP/002~ Communication and Reporting JA75/MSP/004~ Record-keeping Procedure E7 - Environment Standard - Non-Mineral Waste Management; JE50/WMP/006~ Disposal practice for the Rössing Uranium landfill site.	Physical verification and routine OHSEC monitoring and audit reports	Contractor's Environmental Officer / Rössing Uranium's Environmental Officer / Independent Environmental Auditor
193			The Contractor shall provide sufficient weather-proof and scavenger-proof bins on site to store the solid waste produced on a daily basis. Solid, non-hazardous waste shall be disposed of in the bins provided and no on-site burying, dumping, or burning of any waste materials, vegetation, litter or refuse shall occur. Bins shall not be allowed to become overfull and shall be emptied a minimum of twice weekly. The waste may be temporarily stored on the site in a central waste area that is weather-proof and scavenger-proof, and which the Project Manager has approved.	Contract term / daily.	Without unwarranted exceptions or incident.	Project Requirement.	Physical verification and routine OHSEC monitoring and audit reports	Contractor

ID	Aspect	Management Objective	Management Action	Action Frequency	Standard	Rössing Uranium HSE Reference	Indicator	Responsibility
194			The Contractor shall supply the Project Manager with a certificate of final disposal.	Contract term / daily	Without unwarranted exceptions or incident	JK65/PRD/003~ Disposal of Contaminated Items JE50/WMP/002~ Disposal and re-use of hydrocarbons  JK65/PRD/007~ Transport of Contaminated Items JE50/WMP/006~ Disposal practice for the Rössing Uranium landfill site E5 - Environment Standard - Hazardous Material and Contamination Control; E7 - Environment Standard - Non-Mineral Waste Management; B4 - OH Standards - Hazardous substances	Physical verification and routine OHSEC monitoring and audit reports. Waste disposal certificates	Contractor
195	Overarching aspects: Contaminated water management.	Reducing the likelihood of environmental pollution arising for the release of contaminated water.	Pollution could result from the release, accidental or otherwise, of contaminated runoff from construction camps and batching areas, discharge of contaminated water, chemicals, paints, solvents, oils, fuels, sewage, runoff from stockpiles, solid waste, litter, etc. Accordingly, the Contractor shall take the necessary measures to prevent accidental release into the environment.	Contract term / daily.	Without unwarranted exceptions or incident and as per approved method statement.	JE65/OWM/004~ Water Quality Monitoring JE50/MSP/001~ Water Quality Management JE50/OWM/003~ Water Recycling and Re-Use E5 - Environment Standard - Hazardous Material and Contamination Control; E10 - Environment Standard - Water Use and Quality Control; JE50/SOP/001~ Oil Separation Plant Operation.	Physical verification and routine OHSEC monitoring and audit reports	Contractor
196			The Contractor shall notify the Project Manager immediately of any pollution incidents on site. Verbal reports must be followed up by a written report, which shall be submitted within 24 hours of the incident.	Contract term / ad hoc	Without unwarranted exceptions.	Project Requirement	Physical verification and routine OHSEC monitoring and audit reports. Verify Incident reports	Contractor / Contractor's Environmental Officer
197	Overarching aspects: Earthworks.	Minimise the potential negative OHSEC impacts associated with earthworks operations.	Major earthworks operations and operations outside the demarcated site shall be subject to approval by method statement. Endemic species of high conservation importance must be rescued and transplanted. Once the final site lay-out for the infrastructures are available, affected specimens should be marked and a suitable site selected for a transplant trial. Involvement of the National Botanical Research Institute would be essential to obtain permits and relevant expertise. Other Impacts on other species of concern: During operations, use any opportunities for destructive sampling of habitats and associated studies to inform and add to the existing database on high priority species; where possible, translocate and protect individuals of two plant species of concern (Adeniaphechuelii and Lithopsruschiorum).	Contract term / daily.	Without unwarranted exceptions or incident and as per the approved method statement. Take advantage of biological surveying opportunities where they arise.	Project Requirement	Physical verification and routine OHSEC monitoring and audit reports.	Contractor, HSE Department.

ID	Aspect	Management Objective	Management Action	Action Frequency	Standard	Rössing Uranium HSE Reference	Indicator	Responsibility
198			The Contractor shall ensure that the dust and noise control measures as specified are implemented during earthworks operations.	Contract term / daily / ad hoc.	Without unwarranted exceptions or incident.	Project Requirement.	Physical verification and routine OHSEC monitoring and audit reports. Dust and noise data as part of Contractor's submissions	Contractor / Contractor's Environmental Officer
199			Trenching shall be undertaken in accordance with the engineering specifications and the following OHSEC requirements where applicable:			Project Requirement.		
200			<i>Soil shall be excavated and immediately used for refilling trenches i.e., soil from the first trench section shall be excavated and stockpiled, thereafter soil from the second excavated trench length shall be used to backfill the trench behind it once the infrastructure has been laid. The last trench shall be filled using the soil stockpiled from the first trench section;</i>			Project Requirement.		
201			<i>Trench lengths shall be kept as short as practically possible before backfilling and compacting;</i>	Contract term / ad hoc.	Without unwarranted exceptions or incident.	Project Requirement.		
202			<i>Trenches shall be re-filled to the same level as (or slightly higher to allow for settlement) the surrounding land surface to minimise erosion; and</i>			Project Requirement.		
203			<i>All open trenches shall be clearly and adequately demarcated.</i>			JH50/COP/031~ Personal Protective Equipment JH50/COP/017~ Barricading and Demarcation C4 - Working at Heights; C5 - Confined Spaces; C6 - Cranes and Lifting.	Physical verification and routine OHSEC monitoring and audit reports and health and safety inspection reports	Contractor / Contractor's Environmental Officer / Rössing Uranium's Environmental Officer / Independent Environmental Auditor and Health and safety Officers
204			<i>Barriers will be used to prevent animals from being trapped in the excavations.</i>	Contract term / daily / ad hoc.	Without unwarranted exceptions or incident.	Project Requirement.	Physical verification and routine OHSEC monitoring and audit reports	Contractor / Contractor's Environmental Officer
205		Minimise the extent of earthworks.	The extent of the disturbance resulting from earthworks shall be minimised to the minimum required for the execution of the works.	Contract term / ad hoc.	In the opinion of the Project Manager / Rössing Uranium's Environmental Officer / Contractor's Environmental Officer / Independent Environmental Auditor in comparison with the technical drawings specifications.	Project Requirement.	Physical verification and routine OHSEC monitoring and audit reports	Contractor

ID	Aspect	Management Objective	Management Action	Action Frequency	Standard	Rössing Uranium HSE Reference	Indicator	Responsibility
206			The extent of cut-to-fill operation required for the establishment of the temporary works shall be kept to the minimum through intelligent placement of temporary structures.	Contract term / ad hoc.	In the opinion of the Project Manager / Rössing Uranium's Environmental Officer / Contractor's Environmental Officer / Independent Environmental Auditor and as per the relevant approved method statement.	Project Requirement.	Physical verification and routine OHSEC monitoring and audit reports	Contractor
207		Ensuring stability of excavations.	Excavation at all the sites shall be carried out in such a way that slopes are not made dangerously steep. In general excavated slopes should be no steeper than 1:3 (approx. 18 degrees), but where this is unavoidable appropriate measures shall be undertaken to stabilise the slopes. No materials, equipment, or other load shall be placed so close to any excavation that the stability of the sides of the excavation is endangered.	Contract term / ad hoc.	Satisfactory in the opinion of the Project Manager / Rössing Uranium's Environmental Officer / Contractor's Environmental Officer / Independent Environmental Auditor .	Project Requirement.	Physical verification by and routine OHSEC monitoring and audit reports	Contractor's Health and Safety Officer
208		Minimise the extent and potential impact of blasting activities.	Adhere to blast schedules that have been communicated to the affected parties.	Contract term.	Without unwarranted exceptions or incident and satisfactory in the opinion of the Project Manager / Rössing Uranium's Environmental Officer / Contractor's Environmental Officer / Independent Environmental Auditor No complaints from nearby receptors	Project Requirement.	Physical verification and routine OHSEC monitoring and audit reports	Contractor
209	Overarching aspects: Blasting.		All vehicles and blasting equipment shall be inspected daily and serviced at prescribed intervals to ensure they are in good working order. Where repairs and maintenance are required, this shall be undertaken immediately, preferably offsite. Where this is not possible maintenance shall only occur with the presence of drip trays, all contamination is to be cleared up and all potentially hazardous fluids are to be stored in secondary containers and dispensed using suitable drip proof dispensing equipment.	Contract term.		Project Requirement.	Physical verification and routine OHSEC monitoring and audit reports	Contractor
210		Accident prevention.	Workers shall wear the necessary Personal Protective Equipment (PPE) at all times: safety glasses, gloves, hardhats, ear plugs and steel toe capped boots (and dust masks if required).	Contract term.	Without unwarranted exceptions or incident and satisfactory in the opinion of the Project Manager / Rössing Uranium's Environmental Officer / Contractor's Environmental Officer / Independent Environmental Auditor No complaints from nearby receptors.	Project Requirement.	Physical verification and routine OHSEC monitoring and audit reports	Contractor

ID	Aspect	Management Objective	Management Action	Action Frequency	Standard	Rössing Uranium HSE Reference	Indicator	Responsibility
211			All workers shall have the necessary training and be deemed competent to safely undertake the task or operate the plant to which they have been assigned.	Contract term.	Without unwarranted exceptions or incident and satisfactory in the opinion of the Project Manager / Rössing Uranium's Environmental Officer / Contractor's Environmental Officer / Independent Environmental Auditor No complaints from nearby receptors.	Project Requirement.	Physical verification and routine OHSEC monitoring and audit reports	Contractor
212			The blasting site shall be equipped with a suitable sized, multipurpose fire extinguisher.	Contract term.	Without unwarranted exceptions or incident and satisfactory in the opinion of the Project Manager / Rössing Uranium's Environmental Officer / Contractor's Environmental Officer / Independent Environmental Auditor No complaints from nearby receptors.	Project Requirement.	Physical verification and routine OHSEC monitoring and audit reports	Contractor
213		Ensuring the accidents are responded to effectively	The blasting teams shall carry a fully equipped first aid box at all times.	Contract term.	Without unwarranted exceptions or incident and satisfactory in the opinion of the Project Manager / Rössing Uranium's Environmental Officer / Contractor's Environmental Officer / Independent Environmental Auditor No complaints from nearby receptors.	Project Requirement.	Physical verification and routine OHSEC monitoring and audit reports	Contractor
214			Due to the remoteness of the area and the reduced capability of a rapid emergency response by the mine paramedics, at least two members of the team will have had basic first aid training.	Contract term.	Without unwarranted exceptions or incident and satisfactory in the opinion of the Project Manager / Rössing Uranium's Environmental Officer / Contractor's Environmental Officer / Independent Environmental Auditor No complaints from nearby receptors.	Project Requirement.	Physical verification and routine OHSEC monitoring and audit reports	Contractor

ID	Aspect	Management Objective	Management Action	Action Frequency	Standard	Rössing Uranium HSE Reference	Indicator	Responsibility
215			The blasting team, using handheld radios, will check in with the mine at least three times per day.	Contract term	Without unwarranted exceptions or incident and satisfactory in the opinion of the Project Manager / Rössing Uranium's Environmental Officer / Contractor's Environmental Officer / Independent Environmental Auditor No complaints from nearby receptors		Physical verification and routine OHSEC monitoring and audit reports.	Contractor
216	Overarching aspects: Landscaping and rehabilitation.	General management objective is to ensure disturbed areas are returned to pre-construction conditions.	All areas disturbed as a result of the construction activities, irrespective of whether they occur within the defined Working Area or not, shall be subject to the landscaping and rehabilitation requirements outlined in this Specification. This includes, but is not limited to, Construction Camps, all stockpiling and lay down areas, the batching plants, all temporary access routes, and all other areas from which topsoil has been stripped.	Contract term / Contract completion.	Satisfactory in the opinion of the Project Manager / Rössing Uranium's Environmental Officer / Contractor's Environmental Officer / Independent Environmental Auditor, the approved method statement and the specifications.	Project Requirement.	Physical verification and routine OHSEC monitoring and audit reports.	Contractor
217			All areas where soil compaction may have occurred due to construction activities must be loosened by ripping or scarifying of soil prior to any topsoil being replaced on such areas.	Contract term / Contract completion.	Satisfactory in the opinion of the Project Manager / Rössing Uranium's Environmental Officer / Contractor's Environmental Officer / Independent Environmental Auditor.	Project Requirement.	Physical verification	Contractor
218		Rehabilitation of infrastructure corridor.	All disturbances associated with the construction of the road, power and water lines have to be rehabilitated.	Contract term / Contract completion	Rehabilitation should aim to reinstate a state that is consistent with the main land-use and considering the general principle of ecological sustainability.	Project Requirement.	Physical verification	Contractor
219		All disturbances associated with the construction of the road, power and water lines have to be rehabilitated.	Develop a rehabilitation plan. Such a plan will contain clear objectives, a strategy, a work plan, a monitoring plan and management response guidelines. Rehabilitation should aim to reinstate a state that is consistent with the main land-use and considering the general principle of ecological sustainability.	Prior to commencement of operational phase.	All rehabilitation conducted within the limits of the properly developed restoration/rehabilitation plan.	Project Requirement.	Physical verification and routine OHSEC monitoring and audit reports.	Rössing Uranium's Environmental Officer / Independent Environmental Auditor and Health and safety Officers

ID	Aspect	Management Objective	Management Action	Action Frequency	Standard	Rössing Uranium HSE Reference	Indicator	Responsibility
220			Monitor success of rehabilitation as part of a rehabilitation/restoration plan and instigate management response procedures where appropriate.	At regular intervals for post rehabilitation.	All rehabilitation conducted within the limits of the properly developed restoration/rehabilitation plan.	Project Requirement.	Physical verification and routine OHSEC monitoring and audit reports.	Rössing Uranium's Environmental Officer / Independent Environmental Auditor and Health and safety Officers
221		Repair of pre-existing or installation of an analogue topography.	Assist colonisation of rehabilitation areas. For example, should there be quartz rocks around, seed the rehabilitation area with some of these (they typically contain cyanobacteria, part of the biological soil crust), making sure that the colonised parts of the rocks are placed face down onto the ground.  In cases where plants were rescued before construction, reintroduce these under the guidance of a properly qualified horticulturalist.	Contract completion.	All rehabilitation conducted within the limits of the properly developed restoration/rehabilitation plan.	Project Requirement.	Physical verification and routine OHSEC monitoring and audit reports.	Contractor
222		Demolition and removal of temporary structures.	Prior to landscaping and rehabilitation, the Contractor shall demolish and remove from site everything not forming part of the Permanent Works. This includes, but is not limited to, temporary services and facilities (including foundations), temporary fences, temporary access routes, protective works, equipment, materials (nut, bolts, washers, wire, wood, bricks, cement etc.) and settlement ponds. All material generated from the demolition and removal of structures from site shall be appropriately disposed of.	Contract completion.	Satisfactory in the opinion of the Project Manager / Rössing Uranium's Environmental Officer / Contractor's Environmental Officer / Independent Environmental Auditor .	Project Requirement.	Physical verification and routine OHSEC monitoring and audit reports.	Contractor
223			Ensure that water flow is not impeded and that natural flows are re-instated.	Contract completion.	Satisfactory in the opinion of the Project Manager / Rössing Uranium's Environmental Officer / Contractor's Environmental Officer / Independent Environmental Auditor .	Project Requirement.	Physical verification and routine OHSEC monitoring and audit reports.	Contractor
224		Landscape reshaping.	All slopes which do not form part of the Permanent Works shall be graded so that no slope exceeds a maximum gradient of 1:3 or as otherwise directed by the Project Manager. Contour drains shall be provided to control erosion where required by the Project Manager.	Contract term / ad hoc.	Satisfactory in the opinion of the Project Manager / Rössing Uranium's Environmental Officer / Contractor's Environmental Officer / Independent.	Project Requirement.	Physical verification and routine OHSEC monitoring and audit reports.	Contractor
225			Excavation and fills for Temporary Works and spoil dumps shall be formed in such a manner that the final profile shall appear as a natural extension to the adjacent, undisturbed ground profiles.	Contract term / ad hoc.	Satisfactory in the opinion of the Project Manager / Rössing Uranium's Environmental Officer / Contractor's Environmental Officer / Independent Environmental Auditor .	Project Requirement.	Physical verification and routine OHSEC monitoring and audit reports.	Contractor

ID	Aspect	Management Objective	Management Action	Action Frequency	Standard	Rössing Uranium HSE Reference	Indicator	Responsibility
226			In cases where plants were rescued before construction, reintroduce these under the guidance of a properly qualified horticulturalist.	Contract term / ad hoc.	Monitor success of rehabilitation as part of a rehabilitation/restoration plan and instigate management response procedures where appropriate.	Project Requirement.	Physical verification and routine OHSEC monitoring and audit reports.	Contractor
227		Traffic on rehabilitated areas.	The Contractor shall not undertake the landscaping of any areas until all operations that may require construction material and equipment to pass over those areas has been completed. All landscaped and rehabilitated areas shall be regarded as exclusion areas and no equipment, other than that required for establishment and maintenance purposes shall be allowed to operate on these areas.	Ad hoc.	Satisfactory in the opinion of the Project Manager / Rössing Uranium's Environmental Officer / Contractor's Environmental Officer / Independent Environmental Auditor.	Project Requirement.	Physical verification and routine OHSEC monitoring and audit reports.	Contractor

# OPERATIONAL PHASE

## ORGANISATIONAL FRAMEWORK

Rio Tinto, Rössing Uranium's parent company, operates within a comprehensive Environmental Management System that accord with international standards of best practice. An array of environmental standards are thus in place and all Rio Tinto subsidiaries, such as Rössing Uranium, are committed to achieving and maintaining such internal standards. Rio Tinto's business policy statement titled *The Way We Work* provides the overarching environmental touchstone for all Rio Tinto employees and contractors, designed to ensure that standards and values are upheld, particularly accountability, fairness, integrity and openness. The policies and principles are then put into practice through local codes of conduct for each subsidiary, the implementation of which is reported on. Rio Tinto expects business partners, including contractors and consultants, to work to similar standards.

Rio Tinto strives to identify, develop, operate, and eventually close world class ore deposits in a socially and environmentally responsible manner by adopting a multidisciplinary approach to all social, environmental and economic activities. Business is conducted in an accountable and transparent manner, which relates not only to shareholders and employees, but also to host communities and customers and any other parties affected by their activities. The corporate policies presented in *The Way We Work* seek to respect the different laws, cultures, traditions, customs, and employment practices applicable to each business unit such as Rössing Uranium. The health, safety, social and environmental responsibilities that come with business operating activities, are managed to the highest standards and sound working relations, internal and external, in a constructive and respectful manner (refer to Annexure A for Rössing Uranium's Health, Safety and Environmental Policy, January 2012). Extracts from Rio Tinto's policies on the environment and sustainable development follow:

- Environment: "Wherever possible we prevent, or otherwise minimise, mitigate and remediate, harmful effects of the Group's operations on the environment."
- Sustainable development: "Rio Tinto business, projects, operations, and products should contribute constructively to the global transition to sustainable development."

Matters of planning, implementation and operation, checking and corrective action, and management review, are embodied in the Rio Tinto Health, Safety, and Environment (HSE) Management System that each business unit, like Rössing Uranium, is obliged to maintain. The existing Rössing Uranium HSE System is based on the principles of internationally applied management systems for health, safety, environment, including the relevant ISO standards and is consistent with the ISO:14001 Environmental Management System amongst others. It is recommended that the management strategies identified hereunder be integrated into the existing Environmental Management System component of the HSE management system where appropriate. In terms of the HSE structure, this SEMP would assist in the identification of the key environmental aspects and will serve to guide Rössing Uranium in the continued formulation of suitable Standard Operating Procedures and in attaining the continual improvement objective.

Due to the scale and complexity of Rössing Uranium's operations, the use of a formalised HSE management system is essential in allowing the company to optimise, coordinate, and manage the various operations, personnel, plant and equipment, and their interactions, in a manner that demonstrates consistent application of environmental best practice. Through the system, Rössing Uranium can efficiently detect and minimise the potential adverse impacts of its activities on the receiving environment. A brief overview of the elements of an ISO: 14 001 Environmental Management System, as entrenched in the HSE, is provided hereunder.

An ISO:14001 Environmental Management System aims to develop a systematic management approach to the management of environmental controls of the organisation. One of the key principles of this

approach is the idea that continual improvement in the organisation's environmental management can be achieved and demonstrated periodically.

Planning is accomplished with the formulation of an environmental policy followed by the identification of environmental concerns (Aspects) and then by defining what measures can be implemented to control or mitigate these aspects (Objectives and Targets). An organisational structure, and system of personnel responsibilities, competency and training, are then developed and implementation begins. Communication lines, documentation control and procedural documents, operational control and emergency preparedness define the operational portion of the program. These items are usually included in an Environmental Management System Manual, which is used to document a program so as to accomplish the Objectives and Targets established at the outset. The organisation's methods for measuring and monitoring its environmental impacts are also included in the manual, along with practices for identifying non-conformances and for implementing corrective and preventative actions. This monitoring, along with routine systems audits and record keeping, constitute the Environmental Management System checking and corrective action program. The final stage in the program is a routine management review of its activities; at which time experience gained in the previous cycle is used to influence improvements to the system contributing to the key objective of continual improvement.

Figure 4 depicts the sequencing of the implementation of an Environmental Management System as well as the structure of a typical Environmental Management System.

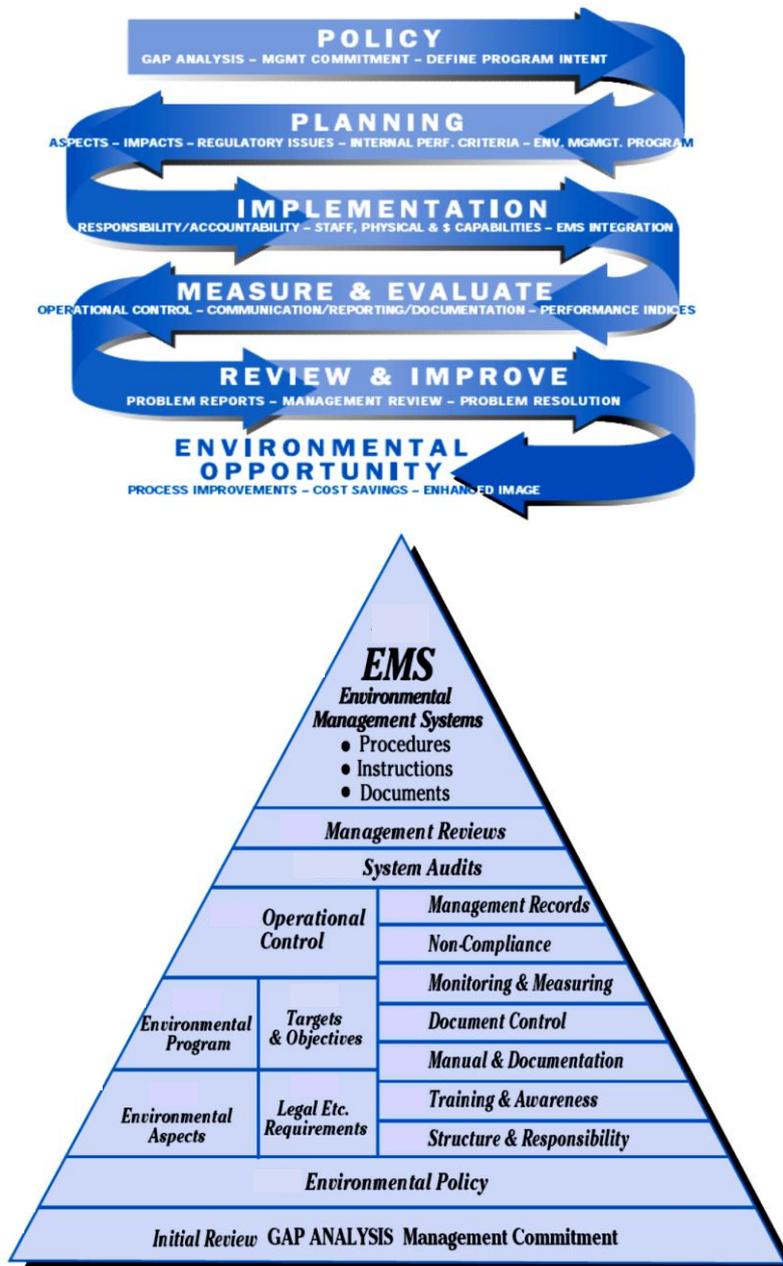


Figure 4: Sequencing and structure of an ISO 14001 Environmental Management System<sup>4</sup>

## INFRASTRUCTURE CORRIDOR RELATING TO THE MINING OF Z20 SATELLITE PIT SEMP AND RÖSSING URANIUM’S HSE

This section is largely informed by Rössing Uranium’s Environmental Management System Code of Practice (JA05/COP/003).

Rössing Uranium’s HSE management system will be extended and upgraded to include the various infrastructure components forming part of the proposed mining of the Z20 satellite pit. The mitigation measures prescribed in this SEMP will be carried forward into Rössing Uranium’s HSE management system to inform procedures regarding the management of new mine components. These components are the same or similar to activities already occurring at Rössing Uranium and thus standard operating procedures can be readily updated or established. The management and mitigation actions put forward in this operational phase SEMP must be utilised, together with the Project Risk Register and standard operating procedures already in place, as an informant to the development of operating procedures for

<sup>4</sup>Source: Modified from NCEDR. 1998

the activities associated with the various linear infrastructure components. The SEMP can assist in the identification of aspects and the development of procedures and operational controls normally undertaken as part of the planning phase. Figure 5 depicts the current HSE management system in place at Rössing Uranium. Key impacts (aspects) and mitigation measures identified in the SEMP can be fed into this system, to accelerate the development of HSE management system procedures.

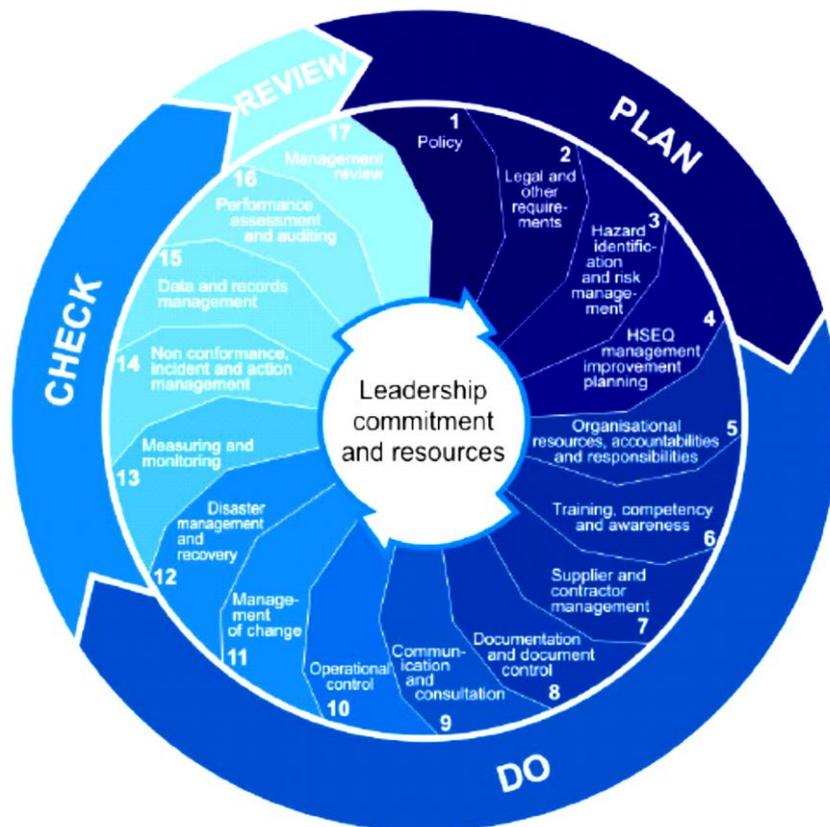


Figure 5: Overview of the HSE management system in effect at Rössing Uranium<sup>5</sup>

## RÖSSING URANIUM'S HSE POLICY

The Rössing Uranium HSE Policy is the overarching and guiding document that informs the manner in which the company conducts its business activities and manages impacts on the environment, the health, and safety of its employees and on the public at large. Rössing Uranium's HSE Policy is attached hereto as Annexure A.

## RÖSSING URANIUM'S HSE HAZARDS / ASPECTS REGISTER

Each area or activity is assessed by an experienced, multidisciplinary panel to identify potential risks to social or natural environment. The hazards or aspects are then listed in a Project Risk Register and ranked or prioritised according to the potential significance of the resulting impact. Where a hazard /aspect is rated as being of high or critical priority, a HSE Management Improvement Plan is set, which sets out an action plan for the management of certain hazards / aspects and clearly defines the roles and responsibilities, task deadlines and monitoring and reporting requirements. Medium and serious priority hazards / aspects are subject to on-going monitoring programmes to ensure continued effective management.

<sup>5</sup>Source: Rössing Uranium Limited. HSE Management System Code of Practice. 2012

## **KEY STAGES IN THE HSE MANAGEMENT SYSTEM**

The information contained in the Project Risk Register and that contained in the SEMP, will assist in the operational review process, as they, to a degree, forego the need to undertake the initial stages of the HSE management system, namely, the identification of HSE aspects. The mitigation measures and recommendations proposed in the SEMP will be carried through into the Project Risk Register, which can be used to inform the development of objectives and targets as well as offer direction in the formulation of the Environmental Management Programmes and Operational Controls for the various activities.

A HSE Improvement Plan is the all-important product of the HSE management system and is vital in ensuring that the management strategies are implemented and that the effectiveness of such strategies is monitored. For each priority environmental aspect, a series of mitigation actions and an implementation programme are identified by the Environmental Coordinator, in certain cases with the assistance of the line manager, HSE Management specialists or specialist consultants. Progress and shortcomings in the implementation of the various improvement plans are reported on by the Environmental Coordinator during routine HSE meetings.

## **COMPETENCE, TRAINING AND AWARENESS**

All employees and contract workers under Rössing Uranium's employ should possess the necessary knowledge and competence to carry out their delegated tasks in compliance with Rössing Uranium's HSE management system, especially those appointed to tasks that have the potential to cause significant environmental damage. Both Environmental Co-ordinators and the Health and Environment (H&E) officers will identify training requirements for the various departments and work areas and undertake training of employees and contract workers in the respective areas. A generic HSE Induction Training Course is delivered to all new employees or contract (including construction) workers, which deals with overarching health, safety, and environmental issues on the Rössing Uranium premises. Task-specific training can take place in the various departments and sections on an *ad hoc* basis. Records of all training courses are to be kept on the HSE management system register.

## **COMMUNICATION AND REPORTING**

To ensure that all levels of management are kept abreast of the performance in terms of the HSE management system, reporting occurs in a frequent and formalised fashion. The existing HSE management system reporting structure is adequate and will be expanded to incorporate the activities associated with the linear infrastructure. Rössing Uranium will ensure that sufficient capacity exists within the HSE sections to ensure that the various roles and responsibilities of the respective sections can be fulfilled.

The Health Officers and HSE Advisors are responsible for the collection and recording of data, which is collated into a weekly report. The collected data in the weekly reports is then collated into a monthly HSE report which is interrogated and interpreted by the Environmental Stewardship and Health Management sections and collated into a single HSE month-end report. This report is distributed to the HSE Superintendents, who are required to review and verify the content and quality of the health, safety and environmental reporting. The Manager HSE, when satisfied, then approves the report and distributes it to all the Departmental Managers. The HSE Manager is responsible for generating an annual HSE report which is a key informant in the annual review of environmental policies and strategies.

The HSE Manager is responsible for compiling data on the health, safety and environmental performance of Rössing Uranium for the monthly report, which is reviewed by the Managing Director before being forwarded to Rio Tinto. The HSE Manager is also responsible for facilitating communication between the various levels and functions of the Rössing Uranium organisation in response to customer, investor, stakeholder, and authority requirements. The Environmental Stewardship section is responsible for on-going formal and internal communications with the various regulatory agencies regarding environmental matters and Rössing Uranium operations.

Effective communication and reporting on environmental monitoring data and performance is key to the effective management of environmental aspects of concern and central to the HSE management system objective of continual improvement. Figure 6 below represents the reporting lines used to inform the Departmental Managers and the General Manager of HSE management system performance and ad hoc health, safety and environmental matters.

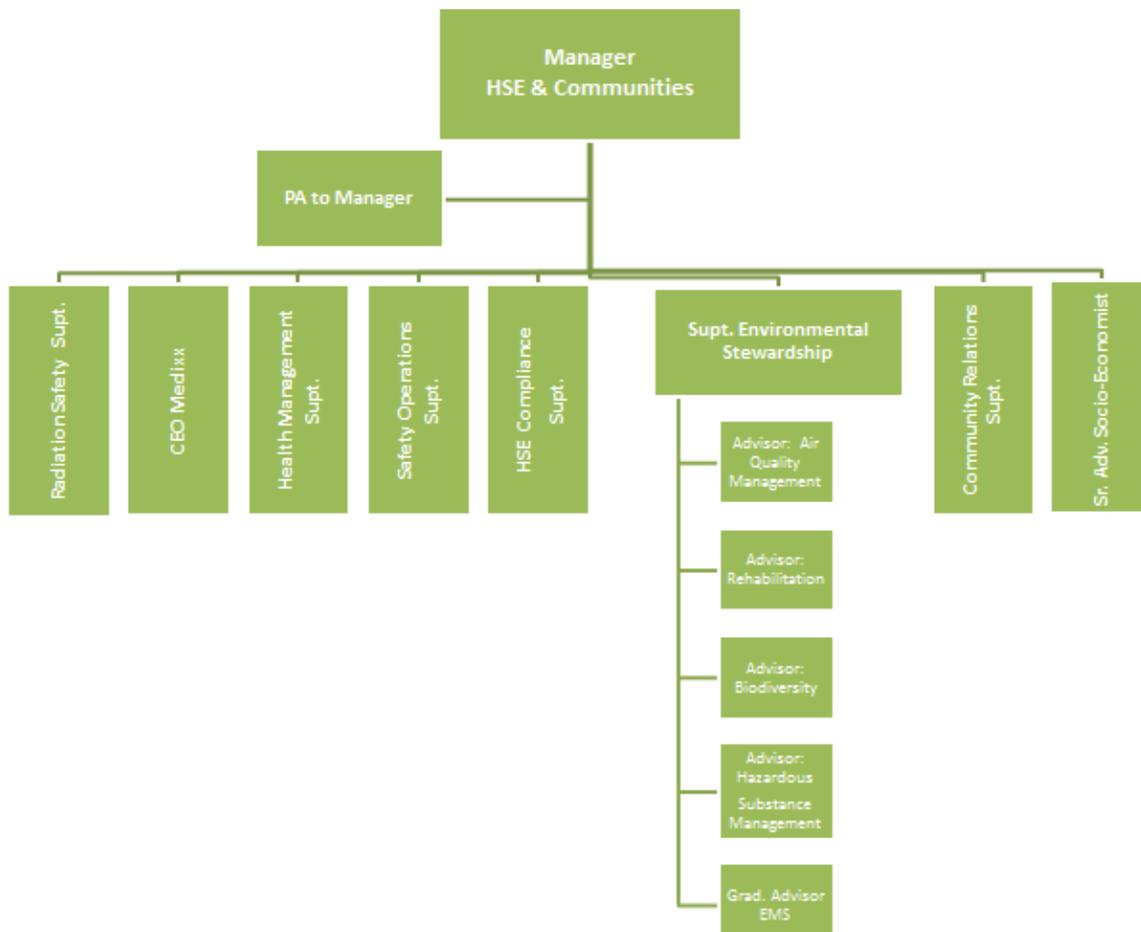


Figure 6: HSE management system reporting Structure

All new reporting resulting from the infrastructure corridor shall be subject to the document control procedures in effect at Rössing Uranium. All new HSE management system operational procedures, environmental data, audit reports, and Standard Operating Procedures resulting from the activities associated with the linear infrastructure must be effectively captured, distributed, and controlled in terms of the HSE management system by the Environmental Stewardship Section.

## OPERATIONAL CONTROLS

Operational controls are essential for the management of specific activities that may impact on the environment. The Environmental Management section is responsible for the generation of procedural documents for specific operations and activities where environmental management and mitigation measures are a priority. The Environmental Management section is responsible for monitoring performance against the operational procedures and reporting on non-conformances during the monthly HSE meetings. Departmental Managers are responsible for the rectification of any such non-conformances and the implementation of any corrective actions defined by the Environmental Coordinator. Contractors are required to abide by Rössing Uranium's HSE operational controls and procedures as well as the rectification of any non-conformances and implementation of any corrective actions deemed necessary by the Environmental Management Section.

## **ORGANISATIONAL FRAMEWORK**

The various appointments and their associated roles and responsibilities identified as being central to the adoption and implementation of this SEMP are discussed under the respective headings to follow and are derived from Rössing Uranium's existing HSE management system.

### **MANAGING DIRECTOR**

The Managing Director is accountable to the Board for all HSE matters and is the custodian of the HSE Policy.

### **GENERAL MANAGERS**

General Managers are responsible for ensuring that the HSE Policy is implemented and are responsible to the Managing Director for ensuring that the necessary reporting procedures and structures are in place and that the annual environmental targets are met.

### **HSEC MANAGER**

The HSEC Manager is the custodian of the HSE management system and is responsible for the implementation of the strategic aspects of the HSE management system. The strategic portion of the HSE management system determines the overall direction, priority, time frame, and resources allocated to Environmental Management at Rössing Uranium. The HSE Manager reports directly to the Chief Operating Officer.

The HSEC Manager is responsible for establishing procedures for internal communication on environmental issues between the various levels and functions within the organisation. The HSEC Manager is also responsible for the procedures for external communications on environmental issues whereby customer/investor/stakeholder requirements, changes in legislation, changes in business objectives etc., are recognised, internalised, and transformed into changes in the operations. The HSEC Manager is thus responsible for ensuring that the current interface between Rössing Uranium, its stakeholders, shareholders, Interested and Affected Parties and the authorities incorporates HSEC issues and that relevant issues identified are communicated to the organisation.

The implementation of the operational HSE management system in each department is the responsibility of the individual departmental managers. They do, however, work according to the guidelines (or HSE programme) maintained by the HSEC Manager.

### **DEPARTMENTAL MANAGER**

The Departmental Manager of each department is responsible for the implementation of the HSE management system within the department, including the allocation of resources in the form of training and awareness, finance and operational control e.g., corrective actions and continual improvement.

### **ENVIRONMENTAL SUPERINTENDENT**

The HSEC Superintendents are the appointed management representatives of the HSE management system at Rössing Uranium.

The HSEC Superintendent is responsible for the overall implementation of the HSE management system at Rössing Uranium and it is this person's responsibility to coordinate implementation efforts throughout all departments. The HSEC Superintendents liaise closely with the departmental managers, superintendents and the Environmental Co-ordinators in order to ensure that the programme is correctly managed and maintained. The Superintendent: Health Management facilitates and co-ordinates specialist environmental projects, should such be required.

The Environmental Superintendent is also responsible for reporting on the performance of the HSE management system to top management for review.

**LINE SUPERINTENDENT**

The Line Superintendent is responsible for all environmental aspects as a line function and is tasked with ensuring that the objectives and targets as stipulated for each environmental aspect in his/her area are met. The Line Superintendent will therefore ensure that all target dates stipulated in a HSE system are met.

**ENVIRONMENTAL COORDINATOR**

The Environmental Coordinator assists the Departmental Manager and Superintendents with the implementation of the HSE management system in their respective work areas. The Environmental Coordinator facilitates:

- Internal communication on environmental issues on a departmental level between the various levels and functions within the department;
- Collation and interpretation of monitoring results based on the objectives and targets identified for each environmental aspect;
- Setting up and the updating of Environmental Management Programmes, through the annual HSE management system reviews; and
- Identification of training requirements.

The Environmental Coordinator ensures that the operational HSE management system is aligned with the Environmental Management Programme for Rössing Uranium and fulfils a facilitation, communication, and monitoring function.

**SUPERINTENDENT HSE COMPLIANCE**

The Superintendent HSE Compliance is the appointed management representatives of the HSE management system at Rössing Uranium.

The Superintendent HSE Compliance is responsible for the overall implementation of the HSE management system at Rössing Uranium and it is this person's responsibility to coordinate implementation efforts throughout all departments. The Superintendent HSE Compliance liaises closely with the departmental managers, superintendents and the HSE Advisors in order to ensure that the programme is correctly managed and maintained. The Superintendent: Environmental Stewardship facilitates and co-ordinates specialist environmental projects, should such be required.

The Superintendent HSE Compliance is also responsible for reporting on the performance of the HSE management system to top management for review.

**HSE OFFICER**

A HSE Officer is responsible for the monitoring of those aspects within the department that are stipulated in the monitoring programme.

## OPERATIONAL PHASE OHSEC MITIGATION TABLE

The OHSEC Mitigation Table included herewith is aimed at facilitating effective OHSEC mitigation implementation during the operational phase, as well as monitoring and auditing thereof. To assist with the cross-referencing between OHSEC mitigation prescribed and existing Rössing Uranium HSE management system procedures, a full list of Rössing Uranium HSE management system procedures (as provided by Rössing Uranium) that may be applicable, has been included as Annexure B, although relevant references are provided in the Rössing Uranium HSE Reference column of the OHSEC Mitigation Table. This list and column references are not necessarily exhaustive and could require updating by Rössing Uranium in future.

Table 5: Operational Phase OHSEC Mitigation Measures

ID:	Aspect	Management Objective	Management Action	Action Frequency	Target / Standard	Rössing Uranium HSE Reference	Indicator	Responsibility
1	RopeCon ® / RailCon® Aerial Conveyor system: Socio-economic impacts.	Protect employees from noise exposure related health problems.	Employees are provided with and make use of suitable personal protective equipment and follow the appropriate health and safety procedures to limit their exposure to both noise and vibration from the conveyor.	Operational phase as required.	OHS&E requirements and Rössing Uranium safety requirements.	JH50/COP/031~ Personal Protective Equipment; JH50/COP/025~ Safety Training Courses; JK65/PRC/003~ Area Noise Survey; JK65/PRC/004~ Personal Noise Survey; E6 - Environment Standard~ Noise and Vibration Control; JA65/MSP/001~ Monitoring and Measurement.	Physical verification and routine OHSEC monitoring and reporting	H&E and Safety Officer
2		Maintenance of the aerial conveyor system.	Access control underneath the conveyor during maintenance	Operational phase as required.	No accidental injuries or illegal trespassing.	Project recommendation.	Physical verification and routine OHSEC monitoring and reporting	H&E and Safety Officer
3			The maintenance trolley will be used to undertake regular maintenance. No access roads would be established for maintenance purposes.	Operational phase as required.	Without exception.	Project requirement.	Physical verification and routine OHSEC monitoring and reporting	H&E and Safety Officer
4		Prevention of material, rock or dust spillage.	Belt splicing to prevent rocks from falling	On-going.	No environmental contamination as a result of spillage from conveyor.	Project requirement.	Physical verification and routine OHSEC monitoring and reporting	H&E and Safety Officer
5		Reduce health and safety risks by ensuring effective worker competence, training and awareness.	All new and existing staff that will work on the conveyor itself should undergo an intensive induction course in health, safety, and environment.	On-going and as required.	No employees allowed to work without having attended the induction training.	JA30/MSP/013~ Identification of training needs and training methods; JH50/COP/025~ Safety Training Courses; JH50/COP/024~ Induction.	OHSEC monitoring and reporting. Induction training attendance registers. Training register	Rössing Uranium Environmental Coordinators and OHS&E Officers
6			All workers should undergo a medical examination to ensure that they are physically fit, mentally capable and are assessed as being competent to undertake the tasks to which they have been assigned.	On-going and as required with the recruitment of new staff. Staff should be subject to reassessment every year.	All staff have medical clearance certificates before commencing work.	JH50/COP/026~ Permit to Work and Clearances System.	Medical clearance certificates	OHS&E and Risk Management

ID:	Aspect	Management Objective	Management Action	Action Frequency	Target / Standard	Rössing Uranium HSE Reference	Indicator	Responsibility
7			Each staff member should also receive task-specific instruction and will be instructed on their terms of reference, which should clearly outline their duties and responsibilities, other pertinent health, safety, environmental and general protocols, as well as any HSE management system control procedures that have direct bearing on the area of operation.	On-going and as required with the recruitment of new staff.	Without unwarranted exceptions.	JA05/POL/001~ HSE Policy Strategies.	Physical verification, routine OHSEC monitoring and reporting. Training register	OHS&E and Risk Management. Training to be carried as [part of induction training
8			All facilities should also be fitted with the required health and safety warning and information signage that is required and suitable for such installations.	On-going.	Safety signage to comply with Occupational Health and Safety legal requirements and relevant international standards.	JA05/POL/001~ HSE Policy Strategies.	Physical verification, routine OHSEC monitoring and reporting	H&E, Safety Officer and Plant Manager
9			Personal protective equipment appropriate for the minimisation of occupational hazards of the task should be provided by Rössing Uranium and the use thereof by the employee should be mandatory.	Operational phase.	Without unwarranted exceptions. all staff to wear appropriate PPE.	JH50/COP/031~ Personal Protective Equipment.	Physical verification, routine OHSEC monitoring and reporting	H&E, Safety Officer and Plant Manager
10			All workers working near radiation sources on the conveyor must abide by work rotation schedules and work time restrictions as well as the prescribed shielding and the permit to work system.	Operational phase.	Without unwarranted exceptions. all staff to wear appropriate PPE.	JH50/COP/031~ Personal Protective Equipment; JH50/COP/026~ Permit to Work and Clearances System; JK50/COP/006 ~Code of Practice for protection against ionising radiation; JK65/COP/007~ Protection against Ultra Violet Radiation; JK65/PRD/001 ~Radiation Protection when using Sealed Radioactive sources; JK65/PRD/015~ Area Radiation Survey for Total Alpha and Beta Contamination; JK65/PRD/016 ~Area Survey for External Gamma Radiation; JK65/PRD/019~ The Monitoring of Personal Radiation Dose, JK65/PRD/020~ Personal External Radiation Dose Monitoring with a Dosicard.	Physical verification, routine OHSEC monitoring and reporting	H&E, Safety Officer and Plant Manager
11			The conveyor should have adequate access control and security measures in place to ensure only authorised, trained, or supervised individuals gain access to the facility.	Operational phase.	All persons entering the plant premises to be verified.	Project recommendation.	Physical verification, routine OHSEC monitoring and reporting.	H&E, Safety Officer and Plant Manager
12			All workers should have access to a sufficient quantity of safe potable water, and ablution and washing facilities within a reasonable distance of their working area.	Operational phase.	Sufficient potable water is available and positioned close enough to the area of operation (25l/person/day).	JE05/STR/001~ Rössing Water Strategy; JE50/MSP/002~ Freshwater Supply Management.	Physical verification, routine OHSEC monitoring and reporting.	H&E, Safety Officer and Plant Manager

ID:	Aspect	Management Objective	Management Action	Action Frequency	Target / Standard	Rössing Uranium HSE Reference	Indicator	Responsibility
13	RopeCon® / RailCon® Aerial Conveyor system: Biodiversity impacts.	Monitor bird collisions with the conveyor.	Bird activity will be observed through binocular observation from an inspection gondola to monitor the impact on birds.	Preferably monthly but timed to coincide with inspections for the first two years of operation and then re-address mitigation in the light of real data, as needed.	Data.	Project Requirement.	Rössing Uranium's Environmental Officer, Contractor's Environmental Officer and Independent Environmental Auditor observation / physical verification	Contractor / Contractor's Environmental Officer
14		Prevent Hillslope habitat loss.	The conveyor's inspection gondola for maintenance activities as suggested and do not build a service track along the conveyor route.	On-going.	No unnecessary service tracks constructed.	Project Requirement.	Rössing Uranium's Environmental Officer, Contractor's Environmental Officer and Independent Environmental Auditor observation / physical verification	Contractor / Contractor's Environmental Officer
15	RopeCon® / RailCon® Aerial Conveyor system: Noise and vibration impacts.	Reduce potential nuisance noise and potential health and safety risk to Rössing Uranium employees working in close proximity to the conveyor.	All plant and equipment should receive regular maintenance and should be operated in accordance with their design specifications. All mechanically powered equipment should be fitted with appropriate silencing devices which are to be inspected and repaired when necessary.	Operational phase.	Maintenance carried out to manufactures specification. All plant and equipment in a visible well maintained condition.	Project recommendation.	Equipment registers	Plant Manager
16			All plant staff should be instructed in the need to minimise operational noise as part of the induction training course.	Induction and task specific training and as required throughout the operational phase.	Minimising noise to form part of the training course.	JH50/COP/024~ Induction; JH50/COP/025~ Safety Training Courses.	Physical verification, routine OHSEC monitoring and reporting. Training register	Plant Manager, H&E and Safety Officers
17	RopeCon® / RailCon® Aerial Conveyor system: Visual impacts.	Minimise the visual impact and landscape.	Lighting of the conveyor and roads should be kept to the minimum required to allow for safe operation and down lighting is encouraged.	Operational phase.	Safety requirements met, and no additional or unnecessary lighting occurring in the opinion of the Safety and H&E officer.	Project recommendation.	Physical verification and routine OHSEC monitoring and reporting	H&E Officer
18	RopeCon® / RailCon® Aerial Conveyor system: Air quality impacts.	Monitor dust fallout.	Dust fallout bucket to be placed downwind in the Khan River with monthly dust fallout rates not exceeding 400mg/m <sup>2</sup> /day.	Monthly.	Acceptable in the opinion of the H&E Officer. Data.	Project requirement.	Physical verification and routine OHSEC monitoring and reporting	H&E Officer

ID:	Aspect	Management Objective	Management Action	Action Frequency	Target / Standard	Rössing Uranium HSE Reference	Indicator	Responsibility
19			Dust fallout buckets to be placed downwind (south) of all three transfer points with monthly dust fallout rates not exceeding 400mg/m <sup>2</sup> /day. The buckets locations are: <ol style="list-style-type: none"> <li>1. south of Transfer Point 1;</li> <li>2. In the Khan River "down-wind" from the conveyor;</li> <li>3. South of Transfer Point 2; and;</li> <li>4. South of the final transfer point.</li> </ol>	Monthly.	Acceptable in the opinion of the H&E Officer. Data.	Project requirement.	Physical verification and routine OHSEC monitoring and reporting	H&E Officer
20			Dust fallout and airborne dust concentrations together with the respective radionuclide concentrations, should be measured. At the same locations as indicated in line 19 above.	Review on an on-going basis as critical groups might change as people move.	Data available to address public concerns regarding dust fallout.	Project requirement.	Physical verification and routine OHSEC monitoring and reporting	H&E Officer
21	RopeCon® / RailCon® Aerial Conveyor system: Public dose impacts.	Protect employees from radiation exposure.	Regular monitoring of the area below the conveyor system to be undertaken to confirm that there was no material accumulating in the river channel due to material falling from the conveyor system. If any material is found then further mitigation would be to have a 'cleaning team' carry out regular monitoring and removal of any fallen material, especially during the main flood season of November to April.	Regular intervals during first year of operation.	No material found below the conveyor system.	Project requirement.	Physical verification and routine OHSEC monitoring and reporting	H&E Officer
22		Reduce the levels of nuisance dust and health and safety concerns related to radon and respirable silica containing dust and monitor dust fallout.	All access and traffic control initiatives are to be maintained. Minimise the total road surface area. Overall mine dust fallout monitoring to include dust from the source.	Operational phase.	Optimised design in the joint opinion of the Project Management Team and Environmental and Health and Safety Departments.	Project recommendation.	Final road design with associated design motivation	Project Management Team with inputs from Environmental Management and Health and Safety
23	Access Road: Socio-economic impacts.		Speed limits on roads should be controlled. Rössing Uranium should also ensure that unnecessary traffic is minimised.	Operational phase.	No incidents.	C3~ Vehicles and Driving; JH50/COP/007~ Vehicles and Driving.	Physical verification, routine OHSEC monitoring and reporting	H&E and Safety Officers
24		Road usage	Zero tolerance for drinking and driving. No off road driving will be allowed unless in emergencies.	Operational phase.	No incidents.	C3~ Vehicles and Driving; JH50/COP/007~ Vehicles and Driving.	Physical verification, routine OHSEC monitoring and reporting	H&E and Safety Officers
25			Road surface should be maintained in a good state of repair.	As required during the operational phase.	No potholes.	Project Recommendation.	Physical verification, routine OHSEC monitoring and reporting. Fallout dust measurements	H&E and Safety Officers
26	Access Road: Biodiversity impacts.	Reduce the impact of the infrastructure corridor on biodiversity.	Circulate biodiversity information with other mining companies, in order to address the cumulative impacts of uranium mining on impacted species with larger ranges (e.g. <i>P. husabensis</i> ), and link Rössing Uranium's biodiversity database and information on biodiversity risks to the Central Namib Strategic Environmental Assessment.	<i>Ad hoc.</i>	Information sharing with neighbouring mines to broaden understanding of regional biodiversity.	JA75/MSP/004~ Record-keeping Procedure; JA65/MSP/001~ Monitoring and Measurement; JA45/MSP/002~ Communication and Reporting; JA45/MSP/007~ External Communications/Complaints.	Correspondence	HSE Department and Biodiversity specialist

ID:	Aspect	Management Objective	Management Action	Action Frequency	Target / Standard	Rössing Uranium HSE Reference	Indicator	Responsibility
27			Encourage continued taxonomy and analysis of existing invertebrate material and museum collections from previous biodiversity surveys at Rössing Uranium, in order to further update and refine the list of species on conservation concern. Focus monitoring on spider and solifugids, applied to understanding the reasons underlying the low densities of these species (e.g., as recorded within the 2007 survey).	On-going and as required.	Biodiversity survey information reviewed and recommendation made regarding biodiversity monitoring programme.	Project recommendation.	Biodiversity assessments / surveys and biodiversity monitoring programme	HSE Department and Biodiversity specialist
28			Identify and select indicator species for long-term monitoring of the impact of dust (5km buffer from operational road areas).	On-going and as required.	Biodiversity survey information reviewed and recommendation made regarding biodiversity monitoring programme.	Project recommendation; JA65/MSP/001~ Monitoring and Measurement.	Biodiversity assessments / surveys and biodiversity monitoring programme	HSE Department and Biodiversity specialist
29			Commission specific studies on the ecological relationships between biological soil crusts and its component organisms and microfauna, and species at higher trophic levels (particularly invertebrates: spiders and scorpions).	On-going and as required.	Established environmental monitoring programme.	Project recommendation; JA65/MSP/001~ Monitoring and Measurement.	Biodiversity assessments / surveys and biodiversity monitoring programme	HSE Department and Biodiversity specialist
30			All animal mortalities on roads will be recorded on a standardized form, with the GPS and other details and photographs.	Operational phase.	All mortalities recorded.	Project recommendation.	Physical verification	HSE Department and
31			If road does affect movement of significant numbers of individuals, careful translocations of individuals among sub-populations, guided by a species management plan, could mitigate the effect of loss of gene flow.	On-going and as required.		Project requirement.		Environmental Management and Health and Safety
32			Efforts by Gobabeb are currently underway to understand the biology and ecology of this species better. These studies should be supported materially and philosophically to extend the knowledge of their dynamics into areas that have not yet been studied, such as around the Rössing ML.	On-going and as required.		Project requirement.		Environmental Management and Health and Safety
33	Access Road: surface water.	Address flooding events.	Regular bridge inspection after flood events to ensure no significant damage to structure has taken place, or erosion around pedestals. Removal of flood debris (vegetation/rocks) from the upstream side of the bridge should be carried out to prevent restrictions to flow. If erosion of the river bed is noted, then sand and rock material should be brought in to infill any areas of concern.	After flood events or as required	Without unwarranted exception.	Project requirement.	Physical verification and routine OHSEC monitoring and audit report	Contractor

ID:	Aspect	Management Objective	Management Action	Action Frequency	Target / Standard	Rössing Uranium HSE Reference	Indicator	Responsibility
34	Water supply line: Socio-economic impacts.	Water conservation systems to conserve water through the application of principles of reduce, reuse and recycle.	All site staff should be made aware of the need to use water conservatively and are to report any wastage or leakages to their supervisors immediately.	Induction and task specific training and as required throughout the operational phase.	Water conservation is addressed as part of the induction training course.	JA30/MSP/013~ Identification of training needs and training methods; JA65/MSP/001~ Monitoring and Measurement; JA45/MSP/002~ Communication and Reporting; JE50/OWM/003~ Water Recycling and Re-Use; JE50/MSP/001~ Water Quality Management; E10 - Environment Standard~ Water Use and Quality Control; JH50/COP/024~ Induction	Training register	Plant Manager, H&E and Safety Officers
35	Diesel supply line: Waste and pollution impacts.	Prevent diesel from contaminating the surrounding environment.	All leakages will be drained to a low point in the aerial conveyor.	As required.	No diesel spillage.	Project recommendation.	Physical verification and routine OHSEC monitoring and audit reports.	Plant Manager, H&E and Safety Officers
36		Monitor safety features.	Monitor flow, pressure and temperature to detect any change. Shutoff valves will stop flow of diesel.	As required.	No diesel spillage.	Project recommendation.	Physical verification and routine OHSEC monitoring and audit reports.	Plant Manager, H&E and Safety Officers
37	Power distribution: Biodiversity impacts.	Prevent bird collisions with transmission lines.	Given the uncertainties as to the nature and magnitude of the impact, particularly with regard to the conveyor, bird strikes must be monitored to depict a more accurate picture.	Regular intervals for a period of two years.	Each bird strike recorded; data.		Physical verification and routine OHSEC monitoring and audit reports.	Plant Manager, H&E and Safety Officers
38		Monitor bird collisions with power lines	Monitor bird collisions with power line by walking the power line route monthly, looking out for carcasses or feathers.	Preferably monthly but timed to coincide with inspections for the first two years of operation and then re-address mitigation in the light of real data, as needed.	Data.	Project Requirement.	Rössing Uranium's Environmental Officer, Contractor's Environmental Officer and Independent Environmental Auditor observation / physical verification	Contractor / Contractor's Environmental Officer
39	Overarching aspect: Environmental best practice.	Ensuring that mitigation measures and recommendations from SEIA are carried into the operations.	Management strategies identified hereunder be carried forward through the Hazard and Operability (HAZOP) risk identification process and integrated into the HSE management system.	On-going and as required.	HSE management system.	JA05/POL/001~ HSE Policy Strategies; JE10/STD/001~ Standard Compliance (Rio Tinto).	Verify paperwork	Rössing Uranium
40			HSE Standard Operating Procedures to be developed, through this, duties, and management actions assigned.	On-going and as required and amended as required.	HSE management system.	JA05/POL/001~ HSE Policy Strategies; JE10/STD/001~ Standard Compliance (Rio Tinto).	Verify paperwork	Rössing Uranium
41			Rössing Uranium should ensure that sufficient capacity exists within the OHS&E sections to ensure that the various roles and responsibilities of the respective sections can be fulfilled.	On-going and as required.	All health, safety and environmental systems are being effectively implemented.	JA05/POL/001~ HSE Policy Strategies; JE10/STD/001~ Standard Compliance (Rio Tinto).	HSE Audits	Rössing Uranium

ID:	Aspect	Management Objective	Management Action	Action Frequency	Target / Standard	Rössing Uranium HSE Reference	Indicator	Responsibility
42	Overarching aspect: Worker competence, awareness and training.	Ensure all employees and contract workers under Rössing Uranium's employment have the necessary knowledge and competence to carry out their delegated tasks in compliance with Rössing Uranium's Environmental Management System, especially those appointed to tasks that have the potential to cause significant environmental damage.	Both Environmental Coordinators and the OHS&E officers should identify training requirements for the various departments and work areas and undertake training of employees and contract workers in the respective areas.	<i>Ad hoc</i> , dedicated OHSEC topics to be presented at least once a month at toolbox talks.	OHSEC topic to be presented at least once a month.	JA30/MSP/013~ Identification of training needs and training methods.	Training register	Rössing Uranium Environmental Coordinators and OHS&E Officers
43			A generic OHS&E Induction Training Course should be delivered to all new employees, which can deal with overarching OHSEC issues on the Rössing Uranium premises. The Disaster Management and Recovery (BRRP) procedure is communicated to new employees during their first induction. Protection Services members are inducted on an annual basis and the rest of the mine employees undergo annual mock drills.	At commencement, thereafter all new appointments and visitors.	All staff to attend within first month of employment.	JA30/MSP/013~ Identification of training needs and training methods; JH50/COP/024~ Induction.	Training register	Rössing Uranium
44			Task-specific training can take place in the various departments and sections on an <i>ad hoc</i> basis.	<i>Ad hoc</i> , dedicated OHSEC topics to be presented at least once a month.	OHSEC topic to be presented at least once a month.	JA30/MSP/013~ Identification of training needs and training methods.	Training register	Rössing Uranium
45			All staff shall receive training in the general and area specific emergency procedures. This training should be reinforced through re-training and simulated emergency drills.	<i>Ad hoc</i> , dedicated OHSEC emergency procedures to be presented during induction and drills to occur once a year.	<i>Ad hoc</i> , dedicated OHSEC emergency procedures to be presented during induction and drills to occur once a year.	JA30/MSP/013~ Identification of training needs and training methods; JH50/COP/024~ Induction.	Training register	Rössing Uranium
46			Records of all training courses should be kept on the HSE register, including topics presented at toolbox talks.	HSE training register to be current.	Without unwarranted exceptions.	JA75/MSP/004~ Record-keeping Procedure.	Training register	Rössing Uranium Environmental Coordinators and OHS&E Officers
46		Disaster management and accident prevention.	Bus drivers operating employee buses between Rössing Uranium and Z20, Arandis, Swakopmund and Walvisbay are to receive advanced driver training.	Initial training followed by annual refresher courses and competence assessments.	Without unwarranted exceptions.	JH50/COP/025~ Safety Training Courses; C3~ Vehicles and Driving.	Training register	Rössing Uranium Environmental Coordinators and OHS&E Officers
47			Rössing Uranium must ensure that site ambulances are kept in good working condition and fully stocked at all times.	Daily inspections	Without unwarranted exceptions.	C3~ Vehicles and Driving; JH50/COP/007~ Vehicles and Driving.	Inspection sheets	Ambulance operator
48	Overarching aspect: Communication and reporting.	To ensure that all levels of management are kept abreast of performance of the HSE management system requirements. Reporting must occur frequently and in a formalised fashion. Effective communication and reporting on environmental monitoring data and performance is key to the effective management and continual improvement.	Collection and recording of data which is collated into a weekly report and submitted to the relevant Environmental Coordinator/ Supt. Environmental Stewardship.	Weekly.	Without unwarranted exceptions.	JA65/MSP/001~ Monitoring and Measurement; JA75/MSP/004~ Record-keeping Procedure.	Verify records	H&E Officer
49			The collected data in the weekly reports is then collated by the Environmental Coordinators into a monthly OH&E report which is interrogated and interpreted by the Environmental Management and Health Management sections.	Monthly.	Without unwarranted exceptions.	JA65/MSP/001~ Monitoring and Measurement; JA75/MSP/004~ Record-keeping Procedure; JA45/MSP/002~ Communication and Reporting.	Verify paperwork	Environmental coordinator/s
50			These reports are used to compile a single OHS&E and Risk Management month-end report. This report is distributed to the Superintendent: Environmental Management, who is required to review and verify the content and quality of the environmental reporting.	Monthly.	Without unwarranted exceptions	JA45/MSP/002~ Communication and Reporting.	Verify paperwork	Superintendent: Environmental Management

ID:	Aspect	Management Objective	Management Action	Action Frequency	Target / Standard	Rössing Uranium HSE Reference	Indicator	Responsibility
51			The Manager: OHS&E and Risk Management is responsible for generating an annual environmental report which is a key informant in the annual review of the company's environmental policies and strategies.	Annual.	Without unwarranted exceptions	JA45/MSP/002~ Communication and Reporting	Verify paperwork	Manager: OHS&E and Risk Management
52			The Environmental Management section is responsible for all on-going formal and internal communications with the various regulatory agencies regarding environmental matters and Rössing Uranium operations.	<i>Ad hoc.</i>	Continued satisfaction of authorities and the various Rössing Uranium departments.	JA45/MSP/002~ Communication and Reporting.	Continued satisfactory performance of Rössing Uranium operations in terms of OHSEC aspects	Manager: OHS&E and Risk Management
53			All new reporting resulting from the infrastructure corridor shall be subject to the document control procedures in effect at Rössing Uranium. The document control procedures must be reviewed to ensure that provision is made for the incorporation of the infrastructure corridor into the HSE management system.	<i>Ad hoc.</i>	Without unwarranted exceptions.	JA40/MSP/003~ Document Control Procedure.	Verify paperwork	Manager: OHS&E and Risk Management and subordinates (Document controller)
54			All new HSE management system operational procedures, environmental data, audit reports, and Standard Operating Procedures resulting from the infrastructure corridor must be effectively captured, distributed, and controlled in terms of the HSE management system by the Environmental Management Section.	<i>Ad hoc.</i>	Without unwarranted exceptions.	JA05/COP/003~ Environmental Management System Code of Practice.	Verify paperwork	Manager: OHS&E and Risk Management and subordinates (Document controller)
55			Compliance in terms of the operational SEMP should be audited by a senior member of staff or appropriately qualified external auditor and an audit report produced.	Annually.	Without exception	JA70/MSP/010~ Reporting and Investigation of HSE incidents and/or non-conformances; JA80/AUD/001~ Procedure carrying out environmental audits at Rössing Uranium.	Environmental monitoring programme and audit reports	Rössing Management and HSE Department
56			Departmental Managers are responsible for the rectification of any non-conformances and the implementation of any corrective actions defined by the Environmental Coordinator or auditor.	<i>Ad hoc.</i>	Non-conformances receive adequate, timeous attention.	JA70/MSP/010~ Reporting and Investigation of HSE incidents and/or non-conformances; JA80/AUD/001~ Procedure carrying out environmental audits at Rössing Uranium.	Weekly and monthly reports	Environmental Coordinators, H&E Officer and auditor
57			In the event of a community or individual noise or other complaints, records should be kept in order to provide an appropriate complaint response and establish resolution procedures. A specially assigned person from the MET should take note of the complaint. Depending on its severity, it should be referred to the noise monitoring or other specialist in order to conduct an on-site investigation, or alternatively, it should be taken into consideration during the subsequent monitoring.	<i>Ad Hoc.</i>	Without unwarranted exceptions.	JK65/PRC/003~ Area Noise Survey; JK65/PRC/004~ Personal Noise Survey; JA65/MSP/001~ Monitoring and Measurement.	Complaints register and noise monitoring data	Environmental Coordinators, H&E Officer

ID:	Aspect	Management Objective	Management Action	Action Frequency	Target / Standard	Rössing Uranium HSE Reference	Indicator	Responsibility	
58	Overarching aspect: Social.	Minimise the exposure of the public to potential hazards associated with the infrastructures.	Continue to develop and improve on its stringent Occupational Health, Safety and Environment programmes and policies relating to management and monitoring of dust, noise, radiation and water, vehicle maintenance, operator training and emergency response plans. Develop a mechanism to monitor noise levels, record and respond to complaints and mitigate impacts.	Continual.	Compliance with HSE objectives.	JA05/POL/001~ HSE Policy Strategies; JA10/MSP/005~ Updating of the Legal Register.	HSE Audit results	Manager: OHS&E and Risk Management and subordinates	
59			It is recommended that, as far as is practicable, noise generating activities such as maintenance and construction, be limited to day-time hours (considered to be between 07:00 and 22:00) since noise impacts are often most significant during the night.	Continual.	Compliance with HSE objectives.	Project requirement.	HSE Audit results	Manager: OHS&E and Risk Management and subordinates	
60			Contractors should be required to prioritise local labour and to ensure employment equity by employing representatives of marginalised groups.						
61			Emergency strategies as per Rössing Uranium's Disaster Management and Recovery procedures to be made available to all site personnel and visitors.	On-going and as required.	Compile decision flow chart.	JA05/POL/001~ HSE Policy Strategies; JA45/MSP/002~ Communication and Reporting.	Verify up-to-date decision	Manager: OHS&E and Risk Management and subordinates	
62			Fully investigate all incidents involving the public and use the findings to inform amendments to policy and procedure.	As required.	Without unwarranted exceptions.	JA70/MSP/010~ Reporting and Investigation of HSE incidents and/or non-conformances; JA75/MSP/004~ Record-keeping Procedure; JA05/POL/001~ HSE Policy Strategies.	Incident reports	Manager: OHS&E and Risk Management and subordinates	
63			Where emergency response plans involve local communities, ensure that such communities are aware of the contents of the plans and what is expected of them.	On-going and as required and throughout the operational phase.	Monitoring systems reviewed to cater for additional infrastructures.	JA45/MSP/007~ External Communications/Complaints.	Environmental monitoring programme and workshop records with communities	HSE Department	
64			Ensure that the Disaster Management Plan is regularly updated and that there is adequate support, awareness, and competency to implement such plans.	On-going and as required and reviewed annually or as required.	Disaster Management Plan reviewed within the previous year.	JA45/MSP/002~ Communication and Reporting JA40/MSP/003~ Document Control Procedure.	Up to date Disaster Management Plan	HSE Department	
65			Prevent a reduction in overnight visitors to the Khan River Valley.	Tourism offsets should be considered to encourage overnight visitors to visit other, less impacted parts of the Khan River valley.	On-going.	Without unwarranted exceptions.	Project requirement.	Reporting.	HSE Department
66			Overarching aspect: Biodiversity.	Limit disturbance to surrounding environment.	There will be zero tolerance to the killing or collecting of any biodiversity (including the collection of wood).	Contract term.	Without exceptions.	Project recommendation.	Contractor / Contractor's Environmental Officer

ID:	Aspect	Management Objective	Management Action	Action Frequency	Target / Standard	Rössing Uranium HSE Reference	Indicator	Responsibility
67			A single survey study assessing the use of all tributary valleys by wildlife based on counting spoor density needs to be undertaken and a monitoring plan must be in place to follow up at frequent intervals.	Prior to the construction phase; with continual monitoring throughout the construction phase.	Monitoring undertaken during regular intervals.	Project Requirement.	Environmental Officer reports and paper trail	Environmental Officer
68			Monitor road kills to obtain data to determine the efficiency of speed limits in preventing road kills, particularly at night.	Driving route daily for a period of two years, after which the situation should be re-assessed.	Without exceptions; all road kill incidents recorded.	Project Requirement.	Rössing Uranium's Environmental Officer, Contractor's Environmental Officer and Independent Environmental Auditor observation / physical verification	Contractor / Contractor's Environmental Officer
69		Monitor biodiversity.	Survey the area to log the location and type of natural water points (springs and seeps) and monitor the use of these resources by animals through spoor transects and installation of camera traps at the most important springs to be affected as well as two unaffected ones nearby.	Repeat spoor transects once a month for 12 months, thereafter once a quarter for the next year. This should be done for at least two years (including two dry and two "wet" seasons).	Data.	Project Requirement.	Rössing Uranium's Environmental Officer, Contractor's Environmental Officer and Independent Environmental Auditor observation / physical verification	Contractor / Contractor's Environmental Officer
70			Simultaneously to the previous study, do spoor transects in the tributaries and on both sides of the Khan River bridge route to quantify the frequency and extent of use of these watercourses by large mammals before and after construction of the road.	Repeat spoor transects once a month for 12 months, thereafter once a quarter for the next year. This should be done for at least two years (including two dry and two "wet" seasons).	Data.	Project Requirement.	Rössing Uranium's Environmental Officer, Contractor's Environmental Officer and Independent Environmental Auditor observation / physical verification	Contractor / Contractor's Environmental Officer
71	Overarching aspect: Waste and Pollution.	No littering.	No littering will be tolerated on site and this will be strictly enforced. This will be discussed during induction training.	Operational phase as required.	No litter at construction areas.	Project Requirement.	Rössing Uranium's Environmental Officer, Contractor's Environmental Officer and Independent Environmental Auditor observation / physical verification	Contractor / Contractor's Environmental Officer

ID:	Aspect	Management Objective	Management Action	Action Frequency	Target / Standard	Rössing Uranium HSE Reference	Indicator	Responsibility
72	Overarching aspect: Noise impacts.	Noise monitoring.	<p>It is recommended that a noise management zone of 2.8 km be considered around the Phase 1 operations.</p> <p>Complaints and noise levels in this noise management zone should be recorded and monitored and results communicated to interested and affected parties.</p> <p>Ambient noise will be measured at Arandis, the Arandis airport, the Khan Mine and at various locations within the Khan River valley.</p>	<p>The frequency of noise monitoring will be done as follows:</p> <p>-LAeq(1 hour) between 07:00 and 22:00</p> <ul style="list-style-type: none"> <li>• One campaign during the construction of the transfer terminal</li> <li>• One campaign during the construction of infrastructure within the Khan River valley</li> <li>• One campaign per year of operation</li> </ul> <p>-LAeq(1 hour) between 22:00 and 07:00</p> <ul style="list-style-type: none"> <li>• One campaign per year of operation</li> </ul> <p>-LZeq (T) during a blast event</p> <ul style="list-style-type: none"> <li>• During as many blast events as possible but at least 2 campaigns</li> </ul> <p>-3rd Octave band frequency spectrum During every campaign.</p>	Assess and confirm the Phase 1 impact area.	Project requirement.	Noise levels monitored and results communicated to interested and affected parties.	Rössing Uranium

# CLOSURE PHASE

## DECOMMISSIONING PHASE MITIGATION STRATEGY

Closure planning within Rio Tinto and its business units, including Rössing Uranium, is guided by the Rio Tinto closure standard and related guidelines. The standard and guidelines are based on best industry practice and are compatible with the International Council for Mining and Metals' sustainable development principles.

### RÖSSING URANIUM'S APPROACH TO BIODIVERSITY OFFSETS

In line with Rio Tinto's Biodiversity Strategy, the overall goal of Rössing Uranium's Biodiversity Action Plan is to have a 'Net Positive Impact' (NPI) on biodiversity by minimising the impacts of its operations and contributing to biodiversity conservation and, ultimately, to ensure that a region benefits as a result of Rössing Uranium's presence. Current biodiversity management at Rössing Uranium aims at continuous improvement of the biodiversity knowledge base; advocate avoidance, minimising and rehabilitation of adverse impacts; promote rehabilitation where possible; support additional conservation actions; and investigate sustainable offset opportunities for compensating residual impacts.

Rössing Uranium actively shares with public the biodiversity information that has been collated over more than three decades. Improved understanding of biodiversity provides, inter alia, important insights into rehabilitation requirements at Rössing Uranium.

About 90% of the disturbed area at Rössing Uranium is in operational use. Rehabilitation interventions are thus limited to demolishing redundant infrastructure and facilities, and stabilising and clean-up activities throughout the Life of Mine.

Against this scenario, the impacts of the infrastructure corridor will be avoided, minimised and rehabilitated where possible. The current residual impacts at Rössing Uranium are manifested as a total footprint of more than 2,500ha, which requires a compensatory offset. The residual impacts of the proposed infrastructure corridor will be added to this figure, which requires compensatory offset.

At this stage guidance from legislative and regulatory frameworks on biodiversity offsets and rehabilitation criteria in Namibia is limited. The sustainability of some offset opportunities is also questionable. The existence of exit plans and clarity with regard to relinquishment of land are some of the important prerequisites for Rössing Uranium

### CLOSURE PLANNING AT RÖSSING

Closure planning at Rössing started in 1992 and various updates of closure plans have been prepared through the years of Rössing's operations. The latest full closure plan update was prepared in 2011. Closure plans, including costing and provision of financial sureties, are based on approved Life of Mine plans only. This means that at the stage when a new expansion plan is approved, provisions are set aside on a continuous basis until the full cost is provided before the end of Life of Mine, or project.

A closure strategy is developed by analysing impact mitigation alternatives using sustainable development criteria and choosing a preferred alternative for each aspect or facility. Implementation plans for these preferred alternatives are then developed and the necessary closure costs calculated. Closure cost calculations are updated annually. The present closure obligation for the Rössing Mine for 2012 was calculated at N\$1,147m.

### CLOSURE PROVISIONS

A Rössing Rehabilitation Trust Fund was established and makes provision for expenditure that will be incurred by the mine in order to comply with statutory obligations and the requirements of the Minister of Mines and Energy as well as the Minister of Environment and Tourism. Clause 15.2 of the Trust Fund Agreement stipulates: "*The mining company shall before the end of its financial year concerned, pay to*

*the Fund a contribution towards the estimated cost of implementing the measures so approved.*" The agreement also stipulates the formula to be used to calculate the annual contribution.

As at 31 October 2012, the Rössing Rehabilitation Trust Fund had a cash balance of N\$256m.

## **NEW PROJECTS**

Closure strategies are developed during the financial and technical feasibility studies and the SEIA for projects and will reach an appropriate level of detail before the projects are approved by Rössing or Rio Tinto. Increasing levels of closure detail are developed as the studies progress from an initial concept via the stages of order of magnitude, prefeasibility, feasibility and final design. The Closure Plan for Rössing is adapted accordingly to include all additional activities. This means that the corridor infrastructure, if established, will become part of Rössing's overall Closure Plan once the project is approved.

## **CONCEPTUAL CLOSURE STRATEGY OF THE Z20 INFRASTRUCTURE CORRIDOR**

The technical studies for the infrastructure corridor have reached prefeasibility level of accuracy. A closure strategy has been conceptualised and follows that for all other infrastructure existing at the Rössing site. In the current Closure Plan, the approach with infrastructure is acknowledging that:

- Established infrastructure is of value to Namibia and should not be destroyed once funds to establish them are sunk. This is regarded as a sign of beneficial development and every effort should be made to identify alternative uses and to retain its benefits to society.
- Some possibilities of alternative use of the existing mine infrastructure after closure could be:
  - Other mining (and or similar industrial) operations may, for example, benefit from the use of the infrastructure after Rössing's operations come to an end.
  - Neighbours might identify alternative uses of the infrastructure; for example tourism operators may want to continue using the infrastructure for a non-mining / non-industrial purpose after Rössing's closure.
  - The dismantling of infrastructure and alternative use elsewhere might be possible, and this alternative – the economic feasibility to relocate infrastructure, for example – requires close investigation. This option only applies to removable infrastructure such as pipelines, overhead power lines, and so forth.
- Total decommissioning of infrastructure is considered as a last resort. Under this scenario the facilities will be demolished, salvaged and redundant material disposed of.

The final post-closure options for the corridor infrastructure are not yet known. The various options need to be identified in consultation with stakeholders closer to the time of closure and harmonised with the objectives of the overall Mine Closure Plan. This may for example imply that all tar roads are removed due to safety reasons. On the other hand, the retention of the corridor infrastructure may provide opportunities to create convenient access into and connections to the Namib Naukluft Park, or to the Husab Mine, or to sites attractive for mining tourism.

In the following paragraphs alternative strategies for each corridor component are described.

## **OVERLAND CONVEYOR**

It is unlikely that the overland conveyor will remain in use for the transportation of materials across the Khan River once mining has been completed in the area. However, since the system will have been in place for about 20 years and the environment will have adjusted to its existence, it could be considered to retain it and convert it to a cable way for the transport of people. However, operating and maintaining the system safely and efficiently would require that sufficient funds are in place.

Should no further use be identified, the system will be removed. The conveyor manufacturer will be appointed to do the deconstruction work. Special methodologies and equipment will be required. The demolition of material transfer stations, electrical substation etc. is a common demolition task and would be performed by a specialised demolition contractor. Pylon footings which are not visible and not accessible without helicopter might be left in place. Environmental disturbance due to the closure activities will be rehabilitated including landscaping, stabilisation of ground and ecological restoration.

Closure costs would generally be expected at 15% of the erection component of total construction cost, but might be higher for the conveyor system since it would require specialised equipment not available in Namibia.

#### **POWERLINE**

At closure the powerline and poles will be removed by an electrical contractor.

#### **DIESEL SUPPLY LINE**

The diesel supply line will be situated on top of the conveyor roof structure. The RopeCon® maintenance trolley will be utilised to deconstruct the diesel line. Prior to removal the diesel supply line will be emptied and flushed so that there will be no potential for hydrocarbon spillage. Pumping stations at Rössing and diesel storage tank removal on the Z20 site will follow standard decommissioning procedures routinely applied when fuel stations are demolished. Redundant materials will be disposed of at the Rössing hazardous waste site in combination with other hydrocarbon contaminated waste.

#### **WATER SUPPLY PIPELINE**

The above ground portions of the water supply line and water storage facilities at the Z20 site will be demolished. Demolition waste will be taken to the Rössing site for disposal at the tailings dam or the domestic waste land fill site. Pipes would be made available for alternate use or would be given to the demolition contractor to partly offset demolition costs.

#### **ACCESS ROAD**

Similar to the conveyor, it needs to be carefully considered whether the road will provide benefit for post mining related land use. This would be established in consultation with stakeholders and the regulatory authorities. Should the road be used in future it would need to be connected to the Rössing tarred private road and connected to the B2 after mine closure. An alternative would be to only maintain the road between the Khan River and the Welwitschia Plains. Preserving the road for future use would require sufficient funds for regular road maintenance.

Should it be decided to remove the road and bridge, this would be carried out by a road construction company that would have the necessary equipment to do so. This work would be the last activity on the schedule of activities to close the Z20 mine. Prior to removal the access road would be needed to transport people and equipment doing the demolition work and to transport demolition waste back to the Rössing disposal areas. It would therefore imply that demolition work starts at the Z20 site, retreating back to the Rössing mine.

All demolition rubble would be disposed of at the Rössing tailings facility. This would mainly consist of broken up tar surfacing. Waste transport would be performed by mining haul trucks and it is estimated that between 100 and 200 truckloads would have to be transported back to the mine.

It will not be possible to remove the fill material brought in to construct the Khan – Welwitschia Plains section of the road. Fill material would be left in place but stabilised in specific areas to prevent erosion and subsequent deposition of the material in the Khan River over time. Run-off retention or diversion features might have to be constructed in certain areas to prevent rain water erosion. Landscaping and erosion control activities will be carried out based on detailed storm water control assessment. The area where the springs were situated before road construction will be opened up to allow the water pools to re-establish. The total road area will be prepared to allow passive recolonisation by desert vegetation.

The top and bottom entrances to the road route will be closed by large boulders or other natural features to screen-off visual impacts cause by original road construction, to prevent vehicular access from the Khan and Welwitschia Plains and to prevent fill eroding into the Khan River.

The bridge would be dismantled and the demolition rubble taken to the mine. Pillars supporting the bridge would be totally excavated so that no reinforced concrete would remain within the river bed sediments.

After removal of the tar surface in Panner Gorge the road's sub-base would be spread and worked into the Gorge sediments during landscaping and rehabilitation.

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## DECOMMISSIONING PHASE OHSEC MITIGATION TABLE

The OHSEC Mitigation Table included herewith is aimed at facilitating effective OHSEC mitigation implementation during the decommissioning phase, as well as monitoring and auditing thereof. This list is not necessarily exhaustive and should be read in concurrence with the Rössing Uranium Mine Closure Management Plan.

Table 6: Decommissioning Phase OHSEC Mitigation Measures

ID:	Aspect	Management Objective	Management Action	Action Frequency	Target / Standard	Rössing Uranium HSE Reference	Indicator	Responsibility
1	Decommission RopeCon®/ RailCon®	Should no further use be identified, the system will be removed	<p>The conveyor system will be decommissioned as follows:</p> <ul style="list-style-type: none"> <li>• Cut the conveyor belt</li> <li>• Pull out conveyor belt</li> <li>• Remove RopeCon structure in end terminals</li> <li>• Attach tensioning cables to towers</li> <li>• Remove track rope frames</li> <li>• Remove track ropes</li> <li>• Remove tower (if there is access by road no helicopter is needed, otherwise helicopter would be a possibility)</li> <li>• Remove foundations</li> <li>• Revegetate line</li> <li>• Depending on the condition of the components various items could be reused at other projects or can be recycled.</li> </ul>	Decommission phase.	Satisfactory in the opinion of the Project Manager / Rössing Uranium's Environmental Officer / Contractor's Environmental Officer / Independent Environmental Auditor.	Project recommendation.	Physical verification.	Contractor.
2	Best practice and overarching issues.	Ensuring that there is an up to date closure plan and that all operational decisions are consistent with the closure targets and objectives.	Review the Rössing Mine Closure Plan to incorporate the added infrastructures. Mine closure plans need to be based both on expert and stakeholder input.	Update the mine closure plan as and when required or at least every five years.	Mine closure plan up to date (i.e., preferably not older than five years at any given time). Closure plans must have written GRN approval.	Project recommendation and up to date mine closure plan.	Verification of documentation	Assigned during update of mine closure plan
3		Ensure adequate financial provisions and resources are available to implement post closure rehabilitation objectives.	It is vital that a properly managed and externally controlled trust fund/funding plan is set up during the operation phase to ensure that sufficient funds are available to implement the rehabilitation and mitigations required for closure. This fund exists and continued contribution to the fund in line with the projected increase in production is required.	Existing fund to remain operational until final sign-off at completion of decommissioning phase.	Independent trustees identified and appointed at the establishment of the trust fund. Trustees' mandate agreed and documented. Closure cost estimations contained in the closure plan.	Project recommendation and up to date mine closure plan.	Verification of documentation; Financial audit reports of the closure fund	Assigned during update of mine closure plan

ID:	Aspect	Management Objective	Management Action	Action Frequency	Target / Standard	Rössing Uranium HSE Reference	Indicator	Responsibility
4			Identify and appoint a specialist EPCM demolition contractor and rehabilitation and maintenance team, who will manage the site, oversee all rehabilitation and maintenance / decommissioning work for a period.	At least five years following mine closure.	Team or independent contractor identified and service contract signed at the commencement of the closure maintenance phase.	Project recommendation and up to date mine closure plan.	Verification of documentation and physical verification	Assigned during update of mine closure plan
5			Closure trust fund trustees, authorities and rehabilitation maintenance team to hold meetings to discuss budget requirements and general progress on issues and challenges.	Quarterly.	Without unwarranted exceptions.	Project recommendation and up to date mine closure plan.	Meeting minutes	Assigned during update of mine closure plan
6		Biological and visual rehabilitation of disturbed areas.	All areas disturbed by mining processes shall undergo ecological rehabilitation as far as is practical as soon as the area is decommissioned.	At closure with follow-up operations post closure.	All rehabilitated areas shall be monitored and addressed where required for a period of five years.	Project recommendation and up to date mine closure plan.	Rehabilitated areas to be signed off by independent specialist, confirming that an appropriate rehabilitation trajectory has been achieved	Assigned during update of mine closure plan
7			Dust suppression and reforming of biological soil crusts through wetting of rehabilitated sites, where ecologically sensitive, high value biodiversity areas are prevalent.	Rehabilitation.	All areas that are rehabilitated are to be adequately wetted post rehabilitation.	Project recommendation and up to date mine closure plan.	Physical verification	Assigned during update of mine closure plan
8			Soil compaction is to be released through mechanical scarification and ripping.	Rehabilitation.	All areas that are rehabilitated are to be adequately loosened during rehabilitation operations.	Project recommendation and up to date mine closure plan.	Physical verification	Assigned during update of mine closure plan
9			Efforts to protect rehabilitated areas against re-disturbance must be considered. Rössing Uranium should plan a sequential exit strategy to achieve this.	At closure and up to five years of follow-up operations.	All areas that are rehabilitated or access points to such areas are to be sign-boarded with appropriate signage.	Project recommendation and up to date mine closure plan.	Physical verification	Assigned during update of mine closure plan
10			A visual specialist should be commissioned to undertake a reassessment of the infrastructure corridor at the time of the mine closure and make additional recommendations or amend existing recommendations in determining the final visual targets and objectives.	Prior to closure.	Implement key recommendations of visual / landscape specialist.	Project recommendation and up to date mine closure plan.	Specialist recommendations report	Assigned during update of mine closure plan
11		General management objective is to ensure disturbed areas are returned to pre-construction conditions.	All areas disturbed as a result of the construction activities, irrespective of whether they occur within the defined Working Area or not, shall be subject to the landscaping and rehabilitation requirements outlined in this Specification. This includes, but is not limited to, Construction Camps, all stockpiling and lay down areas, the batching plants, all temporary access routes, and all other areas from which topsoil has been stripped.	Contract term / Contract completion.	Satisfactory in the opinion of the Project Manager / Rössing Uranium's Environmental Officer / Contractor's Environmental Officer / Independent Environmental Auditor, the approved method statement and the specifications.	Project Requirement.	Physical verification and routine OHSEC monitoring and audit reports.	Contractor

ID:	Aspect	Management Objective	Management Action	Action Frequency	Target / Standard	Rössing Uranium HSE Reference	Indicator	Responsibility
12			All areas where soil compaction may have occurred due to construction activities must be loosened by ripping or scarifying of soil prior to any topsoil being replaced on such areas.	Contract term / Contract completion.	Satisfactory in the opinion of the Project Manager / Rössing Uranium's Environmental Officer / Contractor's Environmental Officer / Independent Environmental Auditor.	Project Requirement.	Physical verification	Contractor
13		All disturbances associated with the construction of the road, power and water lines have to be rehabilitated.	Develop a rehabilitation plan. Such a plan will contain clear objectives, a strategy, a work plan, a monitoring plan and management response guidelines. Rehabilitation should aim to reinstate a state that is consistent with the main land-use and considering the general principle of ecological sustainability.	Prior to commencement of operational phase.	All rehabilitation conducted within the limits of the properly developed restoration/rehabilitation plan.	Project Requirement.	Physical verification and routine OHSEC monitoring and audit reports	Rössing Uranium's Environmental Officer / Independent Environmental Auditor and Health and safety Officers
14			Monitor success of rehabilitation as part of a rehabilitation/restoration plan and instigate management response procedures where appropriate.	At regular intervals for post rehabilitation.	All rehabilitation conducted within the limits of the properly developed restoration/rehabilitation plan.	Project Requirement	Physical verification and routine OHSEC monitoring and audit reports.	Rössing Uranium's Environmental Officer / Independent Environmental Auditor and Health and safety Officers
15		Rehabilitation aims should focus on the repair of pre-existing or installation of an analogue topography (meaning that soil heaps must be levelled and raked to smooth over the surface, rocky areas should be rebuilt).	Assist colonisation of rehabilitation areas. For example, should there be quartz rocks around, seed the rehabilitation area with some of these (they typically contain cyanobacteria, part of the biological soil crust), making sure that the colonised parts of the rocks are placed face down onto the ground.  In cases where plants were rescued before construction, reintroduce these under the guidance of a properly qualified horticulturalist.	Contract completion.	All rehabilitation conducted within the limits of the properly developed restoration/rehabilitation plan.	Project Requirement.	Physical verification and routine OHSEC monitoring and audit reports.	Contractor
16		Prevent landscape decay could take place and further reduce the attraction value of the Khan River and surrounding areas.	Unless the road can be utilised for post mine touristic or other activities, all infrastructure associated with the Z20 corridor should be broken down and removed. Dust suppression measures should be implemented during the deconstruction phase.  The areas which can be accessed should be landscaped to allow for hydrological flow and rehabilitated back to a natural landscape making use of the services of a professional landscape architect.	Contract completion.	All rehabilitation conducted within the limits of the properly developed restoration/rehabilitation plan.	Project Requirement.	Physical verification and routine OHSEC monitoring and audit reports.	Contractor

ID:	Aspect	Management Objective	Management Action	Action Frequency	Target / Standard	Rössing Uranium HSE Reference	Indicator	Responsibility
17	Monitoring.	Noise monitoring.	<p>It is recommended that a noise management zone of 2.8 km be considered around the Phase 1 operations. This area corresponds to the area over which noise levels may result in annoyance i.e. complaints and occasional community action. Noise levels in this area should be monitored and results communicated to interested and affected parties.</p> <p>Ambient noise will be measured during decommissioning phase at Arandis, the Arandis airport, the Khan Mine and at various locations within the Khan River valley.</p> <p>The frequency of noise monitoring will be done as follows:</p> <p>-LAeq(1 hour) between 07:00 and 22:00</p> <ul style="list-style-type: none"> <li>One campaign during the construction of the transfer terminal</li> <li>One campaign during the construction of infrastructure within the Khan River valley</li> <li>One campaign per year of operation</li> </ul> <p>-LAeq(1 hour) between 22:00 and 07:00</p> <ul style="list-style-type: none"> <li>One campaign per year of operation</li> </ul> <p>-LZeq (T) during a blast event</p> <ul style="list-style-type: none"> <li>During as many blast events as possible but at least 2 campaigns</li> </ul> <p>-3rd Octave band frequency spectrum</p> <ul style="list-style-type: none"> <li>During every campaign.</li> </ul>	Contract term/daily.	Without unwarranted exceptions.	Project requirement.	OHSEC course syllabus contained in approved method statement	Contractor
18	Overarching aspects: PM <sub>10</sub> concentrations and dust fallout.	Wind erosion.	Demolition of infrastructure to have water sprays where a lot of vehicle activity is required.	Decommissioning phase.	Without unwarranted exceptions.	Project requirement.	Physical verification, and final signoff and assessment by a qualified Occupation Health and Safety specialist	Contractor.
19	Overarching social aspects.	Public safety.	Access to the infrastructure corridor shall continue to be controlled for a period of at least five years or until all potential risks have been minimised to an acceptable level.	5 years post closure.	Without unwarranted exceptions.	Project recommendation and up to date mine closure plan.	Physical verification, and final signoff and assessment by a qualified Occupation Health and Safety specialist	Assigned during update of mine closure plan

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# ANNEXURES

<b>ANNEXURE A: RÖSSING URANIUM HSE POLICY</b>	<b>95</b>
<b>ANNEXURE B: List of Rössing Uranium ISO Environmental Management System Procedures</b>	<b>96</b>

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# ANNEXURE A: RÖSSING URANIUM HSE POLICY

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RioTinto

## RÖSSING URANIUM LIMITED HEALTH, SAFETY AND ENVIRONMENTAL POLICY

January 2012

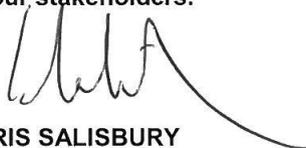
Excellence in Health, Safety and Environmental (HSE) management is one of the foundations of Rössing's vision to be a safe, long-term supplier of  $U_3O_8$  to the nuclear power industry around the world. This is in line with our commitment to zero harm, corporate citizenship, social responsibility and sustainability.

### To accomplish this, Rössing will:

- Recognise that nothing is more important than the protection of the Health and Safety of our stakeholders, specifically, our employees, contractors, host communities, clients and shareholders.
- Commit to operate our business with respect and care for both the local and global Environment in order to prevent and mitigate residual pollution.
- Understand and manage the effects of our product through its entire life cycle to deliver continuous improvements in a sustainable manner.
- Work with integrity and be in full compliance with applicable legal standards, all other requirements as well as our internal controls.
- Seek continual and rapid improvement in HSE performance to create a Zero Harm work environment that is in line with leading practices.
- Provide adequate HSE training and resources to employees, contractors and visitors.
- Identify and assess hazards arising from our activities and manage associated risks to the lowest practical level.
- Enhance biodiversity protection by assessing and considering ecological values and land use aspects in investment, operational and closure activities.
- Continue in our efforts to raise the awareness of HSE issues in our host communities.
- Regularly review our performance and publicly report our progress.
- Communicate our commitment to this HSE policy to all our stakeholders and ensure that this policy is readily available to all our stakeholders.

In implementing this Policy we will engage in constructive dialogue with our employees, contractors, host communities and all other stakeholders in sharing relevant information and responsibilities for meeting our requirements.

The HSE policy document is complimented by the HSE strategy document which is readily available to all our stakeholders.



**CHRIS SALISBURY**  
Managing Director

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# ANNEXURE B: LIST OF RÖSSINGURANIUM ISO ENVIRONMENTAL MANAGEMENT SYSTEM PROCEDURES

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## HEALTH

- B1 - OH Standards** Particulate and gas or vapour exposures  
**B2 - OH Standards** Hearing conservation  
**B3 - OH Standards** Manual handling and vibration  
**B4 - OH Standards** Hazardous substances  
**B5 - OH Standards** Radiation  
**B6 - OH Standards** Thermal stress  
**B7 - OH Standards** Fitness for work  
**B8 - OH Standards** Legionnaires disease  
**B9 - OH Standards** Travel and remote site health  
**B10 -OH Standards** Occupational exposure limits

<b>Codes of Practice</b>	
Peer Educator Programme	JK45/COP/001
Occ. Hygiene Monitoring	JK65/COP/002
Control of Asbestos at work	JK65/COP/003
Respiratory Protection Programme	JK65/COP/004
Thermal Stress	JK65/COP/005
Protection Against Ionising Radiation	JK65/COP/006
Protection Against Ultra Violet Radiation	JK65/COP/007
Control of Substances Hazardous to Health	JK65/COP/008
Hearing Conservation	JK65/COP/009
Human Vibration Protection	JK65/COP/011
<b>Procedures</b>	
Maintenance work carried out on the CIX contactors	JK50/PCL/001
Aerotesting Procedure	JK65/PIN/001
Operating the Thermo Eberline Handcount	JK65/PIN/002
Instrument Procedure for the Automess 6150 AD4 Dose Rate Meter	JK65/PIN/003
Operating Instructions for the Electra and DP2R/4A Probe	JK65/PIN/004
Management of Health Instruments and equipment.doc	JK65/PIN/005
Personal Monitoring of LLRD using the Myriam Instrument	JK65/PIN/006
Personal monitoring of RDP using the DoseManPro instrument	JK65/PIN/007
Thermal Stress	JK65/PRC/001
Maintenance of Water Coolers and Emergency Units	JK50/PRC/002
Area Noise Survey	JK65/PRC/003
Personal Noise Survey	JK65/PRC/004
Alcohol & Drug Testing Procedure for Cottage	JK65/PRC/005
Alcohol & Drug Testing Procedure for Windhoek	JK65/PRC/006
Confined Space Clearances	JK65/PRC/007
Measurement of Whole Body Vibration	JK65/PRC/008
Measurement of Hand-arm Vibration	JK65/PRC/009
Particulate Monitoring Particulates, Mists, Fumes and Vapours	JK65/PRC/010
Diesel Particulate Monitoring	JK65/PRC/011
Alcohol & Drug Procedure	JK65/PRC/012
Wood dust Monitoring	JK65/PRC/013
Confine Space clearances	JK65/PRC/014
HIV & Aids Transfer Procedure	JK65/PRC/015

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## **RADIATION**

Radiation Protection when working with Sealed Radiation Sources	JK50/PRD/001
Urinalysis Sampling Procedure	JK65/PRD/002
Disposal of Contaminated Items	JK65/PRD/003
Removal of Scrap	JK65/PRD/004
Removal of Equipment and Material from Site	JK65/PRD/005
Decontamination of Contaminated Items	JK65/PRD/006
Transport of Contaminated Items	JK65/PRD/007
Monitoring of Employees Exiting FPR During unavailability of Thermo Electron PCM-2 Portal Monitor	JK65/PRD/008
Uranium Oxide Spillage	JK60/PRD/009
Monitoring & Identification of Contaminated Items	JK65/PRD/010
Product Shipment Inspection & Monitoring	JK65/PRD/011
Baseline Monitoring of Empty Containers	JK65/PRD/012
Analysis of Smear Sample for Alpha Radiation with Handecount	JK65/PRD/013
Procedures for Maintenance Work Carried out on the CIX Contactors	JK50/PRD/014
Area Radiation Survey for Total Alpha and Beta Contamination	JK65/PRD/015
Area Survey for External Gamma Radiation	JK65/PRD/016
Area Radiation Contamination Survey using Smear Samples	JK65/PRD/017
Contact radiation monitoring (Beta/Gamma) in Final Product Recovery	JK65/PRD/018
The monitoring of Personal Radiation Dose	JK65/PRD/019
Personal External Dose Monitoring with a Dosicard	JK65/PRD/020
Monthly pregnancy test	JK65/PRD/021
Container Packing & Strapping Procedure	JK65/PRD/022
Personal monitoring of RDP using the DoseManPro instrument	JK65/PRD/023
Scales Calibration	JK65/PRD/024
Determination of transport requirements for transporting radioactive materials”?	JK65/PRD/025
Microwave testing	JK65/PRD/026
Guidelines on Equipment leaving site	JK65/PRD/027
Alpha Analysis of Smear Samples with the Hand-E-Count (new instrument	JK65/PRD/028
Low Frequency EMF workplace Analysis	JK65/PRD/029
	FPR10
Inspection of Drums	FPR11
Drum Information Stencilling	FPR12
Drum Packing and Handling of Containers	FPR13

## **SAFETY**

- C1 Isolation**
- C2 Electrical Safety**
- C3 Vehicles & Driving**
- C4 Working at Heights**
- C5 Confined Spaces**
- C6 Cranes & Lifting**

<b>Codes of Practice</b>	
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Vehicles and Driving	JH50/COP/007
Off-site Vehicles and Driving Standard	Appendix A
Cranes and Lifting	JH50/COP/011
First Responder Training	JH50/COP/012
Storage of flammable and Explosive Material	JH50/COP/013
Aisles, Storage and Demarcating	JH50/COP/014
Stacking and Storage	JH50/COP/015
Colour Coding	JH50/COP/016
Barricading and Demarcation	JH50/COP/017
Machine Guarding	JH50/COP/018
Compressed Gas Cylinders/Pressure Vessels	JH50/COP/019
Hand Tools	JH50/COP/020
Work, Yard and Back Areas	JH50/COP/021
Appointment of Responsible Persons	JH50/COP/023
Permit to Work Systems	JH50/COP/026
Working at Heights	JH50/COP/030
Personal Protective Equipment	JH50/COP/031
The role of an OHSE Representative	JH50/COP/032
Fire Training	JH50/COP/033
Electrical Safety	JH50/COP/035
Procedure for cutting a lock	JH50/COP/036
<b>Procedures</b>	
Tyre Management	JH50/PRC/001
Confined Space Procedure	JH50/PRC/002

## **ENVIRONMENT**

**E2 - Environment Standard Air Quality Control**

**E3 - Environment Standard Acid Rock Drainage Prediction and Control**

**E4 - Environment Standard Greenhouse Gas Emissions**

**E5 - Environment Standard Hazardous Material and Contamination Control**

**E6 - Environment Standard Noise and Vibration Control**

**E7 - Environment Standard Non-Mineral Waste Management**

**E8 - Environment Standard Mineral Waste Management**

**E9 - Environment Standard Land-Use Stewardship**

**E10 Environment Standard Water Use and Quality Control**

<b>Procedures</b>	
Non-Mineral Waste Management	JE50/WMP/001
Disposal/re-use of Hydrocarbons	JE50/WMP/002
Disposal of capacitors	JE50/WMP/003
Disposal practice for the Rössing Landfill Site	JE50/WMP/006
Procedure for action taken in the event of a diesel/oil spillage	JE50/WMP/010
Disposal of oil and diesel filters	JE50/WMP/012
Bio-remediation of hydrocarbon contaminated soil and sludge	JE50/WMP/014
Disposal of Oil Trap Residue to the Oil Separation Plant	JE50/WMP/015
Purchasing of chemicals	JA50/PRC/001
Setting up of the Environmental Aspect Register	EMS/OPS/006
Air blast Ground Vibration Monitoring Programme	JE50/PRC/002

Inventory and Inspection of Chemicals in the lab	JE50/PRC/004
Determining of GHG procedure	JE65/PRC/001
Environmental Noise Monitoring Procedure	JE65/PRC/003
Land disturbance reporting	JE65/PRC/004
Biodiversity Monitoring and Information Management	JE65/PRC/005
Procedure for Storing, Transporting, Usage and Disposal of Hazardous Materials of Puma Energy (Namibia)	JE50/PRC/005
Instructions for Mercury Kit	JE50/PIN/001
Instruction for the ph fix Indicator strips	JE50/PIN/002
Dust Deposition Sampling	JE50/PIN/003
Downloading Data from the OSIRIS Dust Monitor at the Crushing Circuit	JE50/PIN/004
Operating Instructions for the spike pH5/6 meter (Analysing soil contamination)	JE50/PIN/005
Multi-Vertical Sampler	JE50/PIN/006
PM10	JE50/PIN/007
Operating Instructions for Total Petroleum Hydrocarbon (TPH) Test Kit	JE50/PIN/008

## **WATER MANAGEMENT**

Rössing water strategy.	JE05/STR/001 R1
Standard Compliance ( Rio Tinto ).	JE10/STD/001 R2
Rössing Water Management Plan.	JA 10/MMP/001
Khan river Vegetation Monitoring.	JE65/OWM/002 R8
Bioremediation of Hydrocarbon Contaminated Soil and Sludge	JE50/WMP/014
Operation of oil separation plant.	JE50/SOP/001 R7
Operation and monitoring of the Seepage Control systems.	JA50/OWM/SCP/002/R10
Monitoring of the sewage plant.	JE65/OWM/003 R8
Operation of the sewage plant.	JE50/SOP/003 R7
Procedure for the operation of septic tanks	JA 50/ENV/OPS/003
Rössing water balance procedure.	JA50/OWM/WBP/001
Water Quality Monitoring.	JE65/OWM/004 R7
Water Quality management.	JE50/MSP/001 R7
Fresh water supply management.	JA50/OWM/WSM/001
Water recycling and reuse.	JE50/OWM/003 R7
Weekly Determination of RDS and Seepage Evaporation Rates.	JE65/OWM/005 R4
Seepage Recycling on the Tailings dam.	JE65/OWM/006 R4
Treatment of TDX boreholes with Sodium hydroxide.	JA 50/OWM/WSM/004
Freshwater Demand planning.	JE20/OWM/001 R2

## **HSE MANAGEMENT SYSTEM**

<b>Code of Practice</b>	
HSE Management System Code of Practice HSE	JA05/COP/003
<b>Procedures</b>	
Environmental audit schedule	JA80/SCH/001
Monitoring and Measurement	JA65/MSP/001
Communication and Reporting	JA45/MSP/002

Document Control Procedure	JA40/MSP/003
Record keeping	JA75/MSP/004
Updating and review of Legal and other requirements	JA10/MSP/005
Hazard identification, risk evaluation and risk management	JA15/MSP/006
External Communications/Complaints	JA45/MSP/007
Reporting and investigation of HSE incidents and/or non-conformances	JA70/MSP/010 & MSP/011 merged
Training, competency and awareness	JA30/MSP/013
HSE Auditor Register	JA80/REG/001
HSE Audit Schedule	JA80/SCH/001
HSE Purchasing Criteria	JA35/MSP/013
Management of Change	JA 55/MSP/001
Appendix 1 - Proposal Form guidelines	JA 55/MSP/001.APP01
Appendix 2 - Level 1 Change	JA 55/MSP/001.APP02
Appendix 3 - Request Proposal Form	JA 55/MSP/001.APP03
HSE Committee Meetings for Rossing	JA45/MSP/008
HSE & Product Quality & Quantity Audit and inspection procedure for Rossing	JA80/MSP/001
Vendor pre-Qualification	JA35/PRC/001
Purchasing of chemicals	JA50/PRC/001
Sustainable sand management	JA50/PRC/003
Major Maintenance of Acid tanks	JA50/PRC/002
PPE Procedure	JA50/PRC/004
Customer Audit Procedure	JA80/PRC/002

### HSE Management Plans

Sustainable sand management	JA20/MMP/003
Product Stewardship Plan	JA20/MMP/004
Biodiversity	JA20/MMP/005
Tailings Dam Dust Management Plan	JA20/MMP/010
Radiation Management Plan	JK20/MMP/001
Non-Mineral Waste Management Plan	JE20/MMP/001
Hazardous Material and Contamination Control Management Plan	JE20/MMP/002
Greenhouse Gas Emissions Management Plan	JE20/MMP/003
Air Quality Management Plan	JE20/MMP/004
Biodiversity Action Plan	JE20/MMP/006
Noise and vibration management plan	JE20/MMP/008
Mineral waste management plan	JE20/MMP/009

### HSE Policies

HSE Policy	JA05/POL/001
RUL Smoking Policy	JK05/POL/001
PPE Policy	JA05/POL/002
Fatigue Management Policy	JA05/POL/003
Clean Shaven Policy	JK05/POL/003
RUL Alcohol & Drug Policy	JK05/POL/004
Occupational Exposure Limits applied at Rössing	JK50/STD/001
HSE Policy Strategies	JA10/STR/001
HIV & Aids Policy Agreement	
Golden Rules	JA05/CHK/COP003 App006

