BACKGROUND INFORMATION DOCUMENT FOR THE SOCIAL AND ENVIRONMENTAL IMPACT ASSESSMENT PROCESS FOR A PROPOSED DESALINATION PLANT FOR RÖSSING URANIUM

Rio Tinto

Rössing Uranium

Working for Namibia

INTRODUCTION

As a result of low uranium market prices, Rössing Uranium Limited (Rössing Uranium) is looking at ways to improve its economic viability. Currently, Rössing Uranium purchases desalinated water for its mining operations at significant cost. The Erongo Region is a water scarce environment, relying predominantly on the Omdel aquifer for its supply. The Erongo region is also a centre for growth in Namibia and central to the country's economic vitality. As an interim measure, Rössing Uranium, along with other mines in the region, have been supplied with desalinated water from the Areva desalination plant near Wlotzkasbaken, since November 2013.

NamWater has been pursuing the development of a new desalination plant at Mile 6 (roughly 10km North of Swakopmund), but the outcome, timelines and commercial aspects to this project remains uncertain. An Agreement to secure water on a long-term basis from Areva's desalination plant at economically feasible terms could also not be reached.

Therefore, Rössing Uranium wishes to investigate an alternate source for desalinated seawater in an effort to reduce the cost of its mining operations and enhance its commercial sustainability. Rössing Uranium therefore plans to design, construct and operate a new desalination plant, ±6 km north of Swakopmund, for their water supply needs.

ENVIRONMENTAL APPROVAL

Prior to the commencement of the proposed activities, an application will be submitted to the Ministry of Environmental and Tourism (MET) and a social and environmental impact assessment (SEIA) process conducted in terms of the Environmental Management Act, 7 of 2007.

SLR Environmental Consulting (Namibia) (Pty) Limited (SLR) and Aurecon Namibia (Pty) Ltd (Aurecon), both independent environmental consulting firms, have jointly been appointed to manage the SEIA process for the proposed desalination plant.

PURPOSE OF THIS DOCUMENT

This document has been prepared to inform you:

* about the proposed development
* about the SEIA process to be followed
* of possible environmental impacts
* on how you can have input into the SEIA process.

YOUR ROLE

Public involvement is an essential part of the SEIA process.

You have been identified as an Interested and Affected Party (IAP) who may want to know about the proposed activities and have input into the SEIA process.

All comments will be recorded and addressed in the SEIA process.

HOW TO RESPOND

Responses can be submitted by means of the attached comments sheet or through communication with the contact person listed below.

If you would like your comments to be addressed in the scoping report please submit them by **12 August 2014**.

WHO TO CONTACT

Werner Petrick

064 402 317 (phone) or 064 403 327 (fax)

or wpetrick@slrconsulting.com

SLR aurecon

DESCRIPTION OF THE PROPOSED RÖSSING DESALINATION PLANT

BASIC PROJECT DESCRIPTION

The desalination plant will be located approximately 6 km north of Swakopmund, at the existing Swakopmund Salt Works. The project will comprise the following components that will be assessed as part of the SEIA process (Refer to Figure 2):

- The seawater intake system and associated infrastructure. The water intake will be located in the vicinity of the existing Swakopmund Salt Works intake.
- Infrastructure to transport water to the plant. Two alternatives are being investigated, i.e. a channel or a pipeline.
- A seawater receiving tank (or existing salt works pond).
- The pre-treatment plant that will remove sediments, solids and organic matter. This plant will most likely comprise of a Dissolved Air Flotation (DAF) system.
- A Modular Seawater Reverse Osmosis (SWRO) desalination plant with a capacity of approximately 3 million m^3/year (8,200 m^3/day). This will be housed together with the post- and pre-treatment infrastructure in a fenced off plant area.
- The waste water outlet system and associated infrastructure. Various discharge alternatives are being investigated, including 'beach disposal' and 'sea disposal' options, within the Mining Licence area of the Salt Works
- A new 11kV power line of approximately 6km would need to be constructed, together with a new substation at the plant.
- A water supply line of roughly 850m to the existing NamWater pipeline, transporting desalinated water.
- Related services and structures i.e. offices, access road, etc.

The media filters and Reverse Osmosis (RO) plant will be housed in the same building which will be approximately 60m x 20m x6m high, while the post treatment and pre-treatment plants, and the storage tanks would be located adjacent to the plant building. The equipment room, offices, and chemical storage room would also be housed in a 13m x 20m x 6m high building that is connected, or is immediately adjacent, to the main plant building.

PROCESS OVERVIEW

Desalination is a process that purifies water by removing dissolved mineral salts and other solids from brackish or seawater, making it suitable for human consumption.

Saline water is abstracted from the sea and pumped to the plant. Reverse osmosis (RO) uses semi-permeable membranes and pressure to separate dissolved matter and salts from saline water, as shown in Figure 1. The desalinated or fresh water is then pumped to a storage facility for use.

Brine, the process waste, is about twice the concentration of seawater consisting of everything that's left behind during the process, and has a higher salt concentration than the input water[1]. Simply put, desalination takes a volume of sea water and returns a little more than half at an almost double salinity concentration.

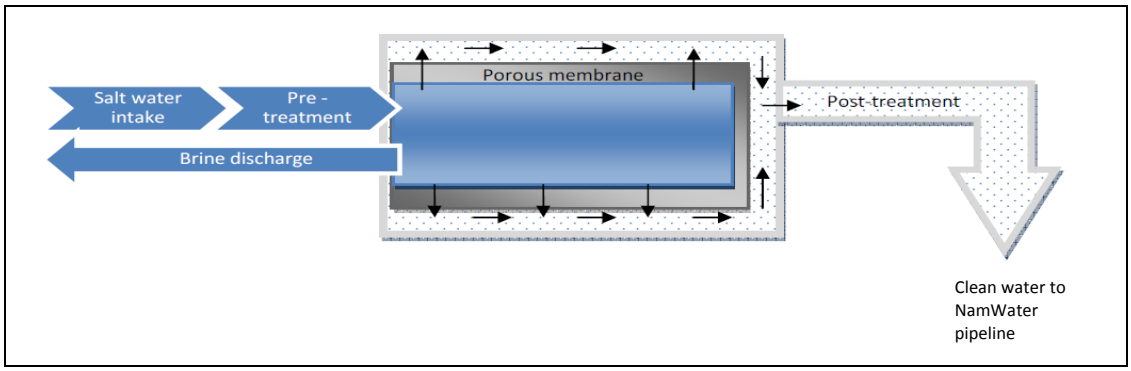


Figure 1: Reverse Osmosis process

[1] Brine contains a Total Dissolved Solids (TDS) at a concentration greater than 36,000mg/ℓ and this may include process chemicals.

POTENTIAL ENVIRONMENTAL ISSUES

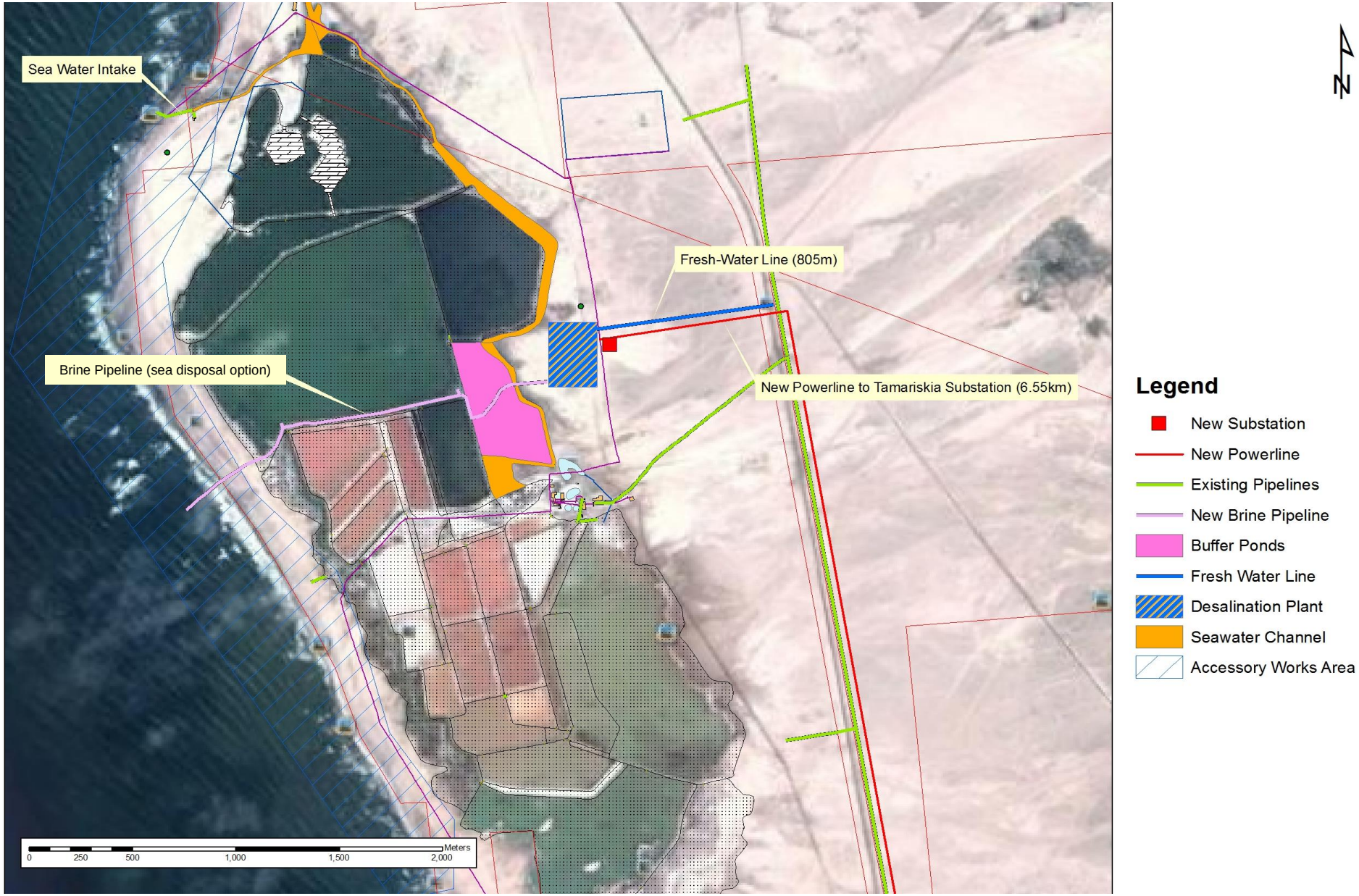
The following table provides a preliminary list of potential environmental aspects and issues associated with the proposed project that require investigation and assessment.

ENVIRONMENTAL ASPECT	POTENTIAL ISSUES
Shoreline environment	Construction of water intake structures and pipelines to carry feedwater and concentrated discharge may cause disturbances to environmentally sensitive beach areas.
Marine environment	**Intake:** Although the intake structures will be designed to maintain a flow of less than the minimum escape velocity for aquatic species, there is a risk of mortality of plankton, fish eggs and fish larvae when water is sucked in at the inlet areas. This potential impact will also be studied by a marine ecologist as part of the SEIA process.
	Discharge of brine: Aquatic species have a tolerance for natural salinity levels, however if these levels undergo significant change this can be detrimental to these creatures. In some instances chemicals are used to treat the intake water, which if released with the brine and can be harmful to marine habitats and receiving water environments, unless effectively mixed into the sea. Various specialist studies of the potential impacts associated with the discharge of effluent from the plant will be undertaken as part of the SEIA process.
Avifauna	The construction of the power line may pose a risk to local avifauna due to the increase potential for collisions to occur. Changes to the existing surface water structures in the area may also impact the local faunal residents and migrants. An avifaunal specialist study will therefore be undertaken as part of the SEIA.
Social and economic impacts	The development of an additional source of water may have economic implications for other water users in the region. These potential impacts will be investigated by both economic and social specialists.
Noise	The use of high-pressure pumps at RO plants can generate noise. Although the site will be located 6 km from Swakopmund at a site characterised by existing pumping operations (Swakopmund Salt Works), there is a possibility that increased noise will be heard by nearby receptors (i.e. at Mile 4). A specialist investigation will be undertaken as part of the SEIA.
Visual	New structures will be erected that may cause negative visual impacts. Although the structures will be located adjacent to the existing Swakopmund Salt Works, the potential visual impacts will be assessed by a specialist.
Archaeology	Possible impact/loss of archaeological resources within the areas to be affected by construction activities will be assessed by a specialist.

PLANNED TIMING (IF APPROVED)

The construction of the proposed desalination plant will only commence upon the issuance of an Environmental Clearance Certificate. The construction phase will take approximately twelve to eighteen months to complete.

MAP INDICATING THE LOCATION OF THE PROPOSED RÖSSING DESALINATION PLANT



THE SOCIAL AND ENVIRONMENTAL IMPACT ASSESSMENT PROCESS

The SEIA process will provide information on the proposed activities and the environment in which it is situated; it identifies, in consultation with interested and/or affected parties (IAPs), the potential negative as well as positive impacts of the proposed activities; and reports on measures required to mitigate and manage the impacts.

The likely process steps and time frames are provided below.

STEPS IN THE EIA PROCESS

PHASE 1 – Project initiation/application (July 2014)

- Meeting with the Ministry of Environment and Tourism (MET)
- Site visits and identification of social and environmental issues
- Identify key stakeholders
- Appoint environmental specialists

PHASE II – Scoping Phase (July – October 2014)

- Notify other regulatory authorities and IAPs of the proposed project

(via newspaper advertisements, this document, emails, site notices)

- Conduct public and key stakeholder (focus group) meetings
- Compile Scoping Report and Issues and Response Report (IRR)
- Comment period: Scoping documents are made available for comment by regulatory authorities and IAPs
- Submit a final Scoping Report and Issues and Response Report to the MET

PHASE III – Assessment Phase (October 2014 – January 2015)

- Carry out specialist investigations
- Compile SEIA Report and Social and Environmental Management Plan (SEMP)
- Comment period: SEIA Documents are made available for comment by regulatory authorities and IAPs
- Submit final Reports to the MET
- Record of decision from the MET

Parties to be involved in the environmental assessment process are identified in the table. **Please let us know if there are any additional parties that should be involved.**

PARTIES INVOLVED IN THE ASSESSMENT PROCESS

PROJECT PROPONENT

- Rössing Uranium Limited

PROJECT TEAM

- SLR – lead environmental consultant
- Aurecon – lead environmental consultant
- Gecko – project managers
- Royal HaskoningDHV – project engineers
- Airshed – noise specialist
- VRM – visual specialist
- WSP Group Africa – marine shoreline dynamics and wastewater discharge modelling specialist
- Pisces Environmental Services – marine ecology assessment
- Alan Louw Marine Services – Intertidal topographic survey
- African Conservation Services – avifaunal specialist
- QRS – heritage specialist
- Ashby & Associates – social specialist
- Design & Development Services – economic specialist

IAPs

- Surrounding landowners
- Members of the public
- Non-Government Organisations and social action groups
- Media

REGULATORY AUTHORITIES

- Ministry of Environment and Tourism (MET)
  - Directorate Environmental Affairs
- Ministry of Fisheries
- Ministry of Water Affairs and Forestry
- NamWater
- NamPower
- Relevant regional and local authorities

ENVIRONMENTAL IMPACT ASSESSMENT APPLICATION FOR THE PROPOSED RÖSSING DESALINATION PLANT

REGISTRATION AND RESPONSE FORM FOR INTERESTED AND AFFECTED PARTIES

DATE		TIME	
PARTICULARS OF THE INTERESTED AND AFFECTED PARTY			
NAME			
POSTAL ADDRESS			
		POSTAL CODE	
STREET ADDRESS			
		POSTAL CODE	
WORK/ DAY TELEPHONE NUMBER		WORK/ DAY FAX NUMBER	
CELL PHONE NUMBER		E-MAIL ADDRESS	

PLEASE IDENTIFY YOUR INTEREST IN THE PROPOSED PROJECT
PLEASE WRITE YOUR COMMENTS AND QUESTIONS HERE

Please return completed forms to:

Werner Petrick
SLR Consulting (Namibia)
Fax: 064-403 327
Email: wpetrick@slrconsulting.com