

# RioTinto

Rössing Uranium

Working for Namibia

## PROPOSED DESALINATION PLANT FOR RÖSSING URANIUM

SEIA – Public & Focus Group Meetings

July 2014

# Agenda

- Welcome and introductions
- Meeting formalities and purpose of meeting
- Project background / motivation
- Overview of proposed Desalination plant for Rössing Uranium
- The SEIA process
- Social and Environmental Issues
- General discussion, comments and questions
- Way forward
- Close

## Purpose of meeting

- Understand the SEIA process being followed
- Motivation and overview of the proposed project
- Discuss potential social and environmental impacts
- Input into the SEIA process

## Project Background / Motivation

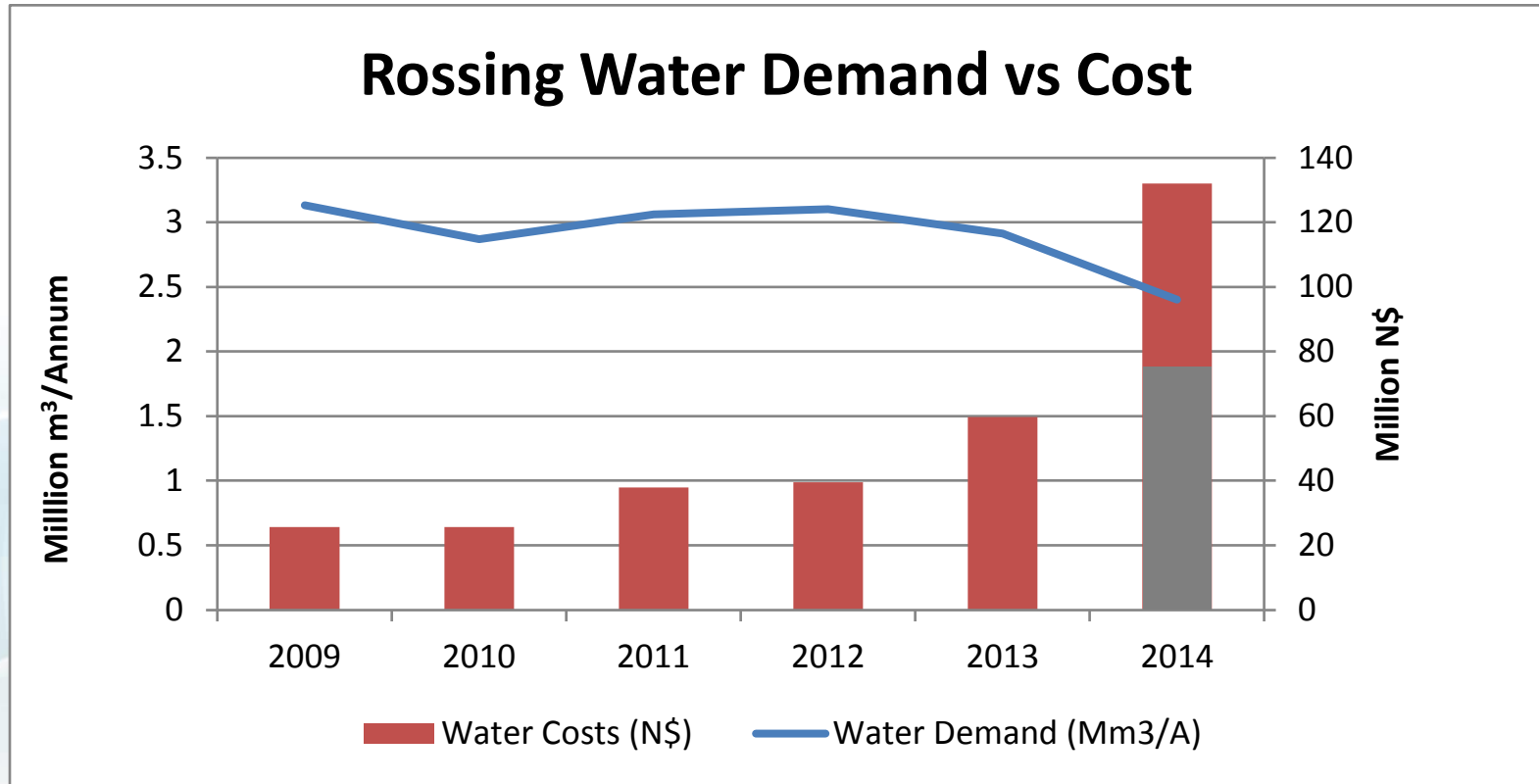
- Low uranium market prices - Rössing is looking at ways to improve its economic viability.
- Currently, Rössing purchases desalinated water at significant cost.
- Erongo Region:
  - Centre for growth
  - central to the country's economic vitality
  - is a water scarce environment, relying predominantly on the Omdel aquifer for its supply.
- Interim measure - desalinated water from the Areva desalination plant near Wlotzkasbaken, since November 2013.

## Project Background / Motivation

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

Rössing investigates an alternate source for desalinated seawater to reduce costs of its mining operations and enhance its commercial sustainability.

# Water Costs



## Proposed Desalination Plant - description

- Rössing plans to design, construct and operate a new desalination plant, approximately 6 km north of Swakopmund, for their water supply needs.
- Located at the existing Swakopmund Salt Works.

# Locality Map





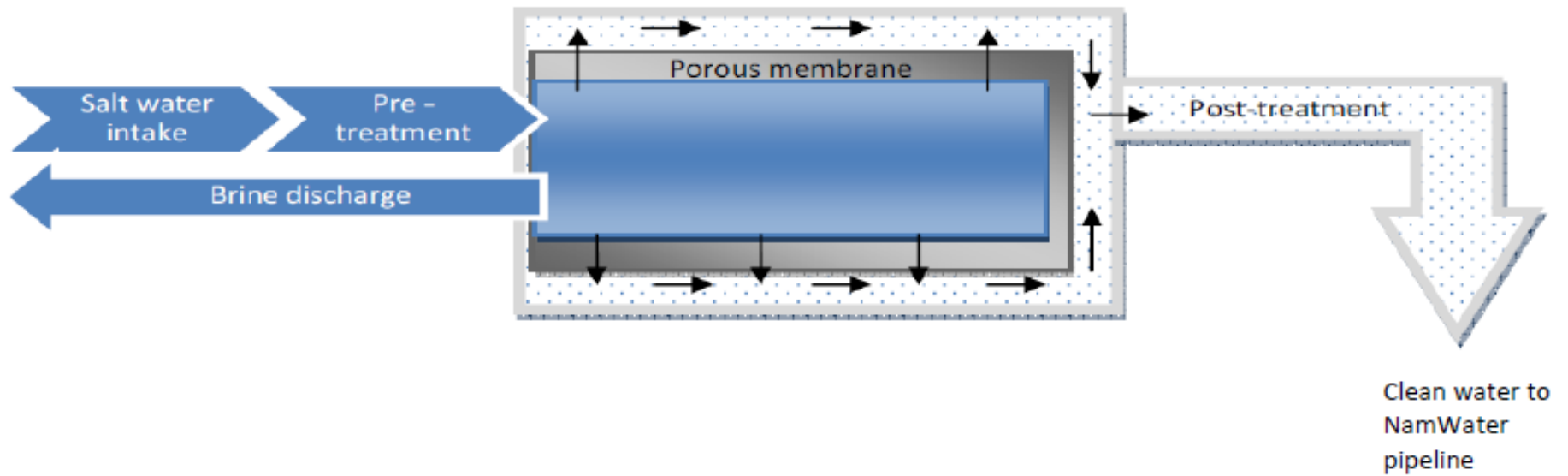
## Proposed Desalination Plant - description

- Seawater intake system & associated infrastructure.
  - The water intake will be located close to Swakopmund Salt Works intake.
- Channel or a pipeline - to transport water to the plant. A seawater receiving tank (or existing salt works pond).

## Proposed Desalination Plant - description

- Pre-treatment plant to remove sediments, solids and organic matter.
  - Most likely comprise of a Dissolved Air Flotation (DAF) system.
- A Modular Seawater Reverse Osmosis (SWRO) desalination plant
  - Capacity - 3 million m<sup>3</sup>/year (8,200 m<sup>3</sup>/day).
  - Housed together with the post- and pre-treatment infrastructure in a fenced off plant area.

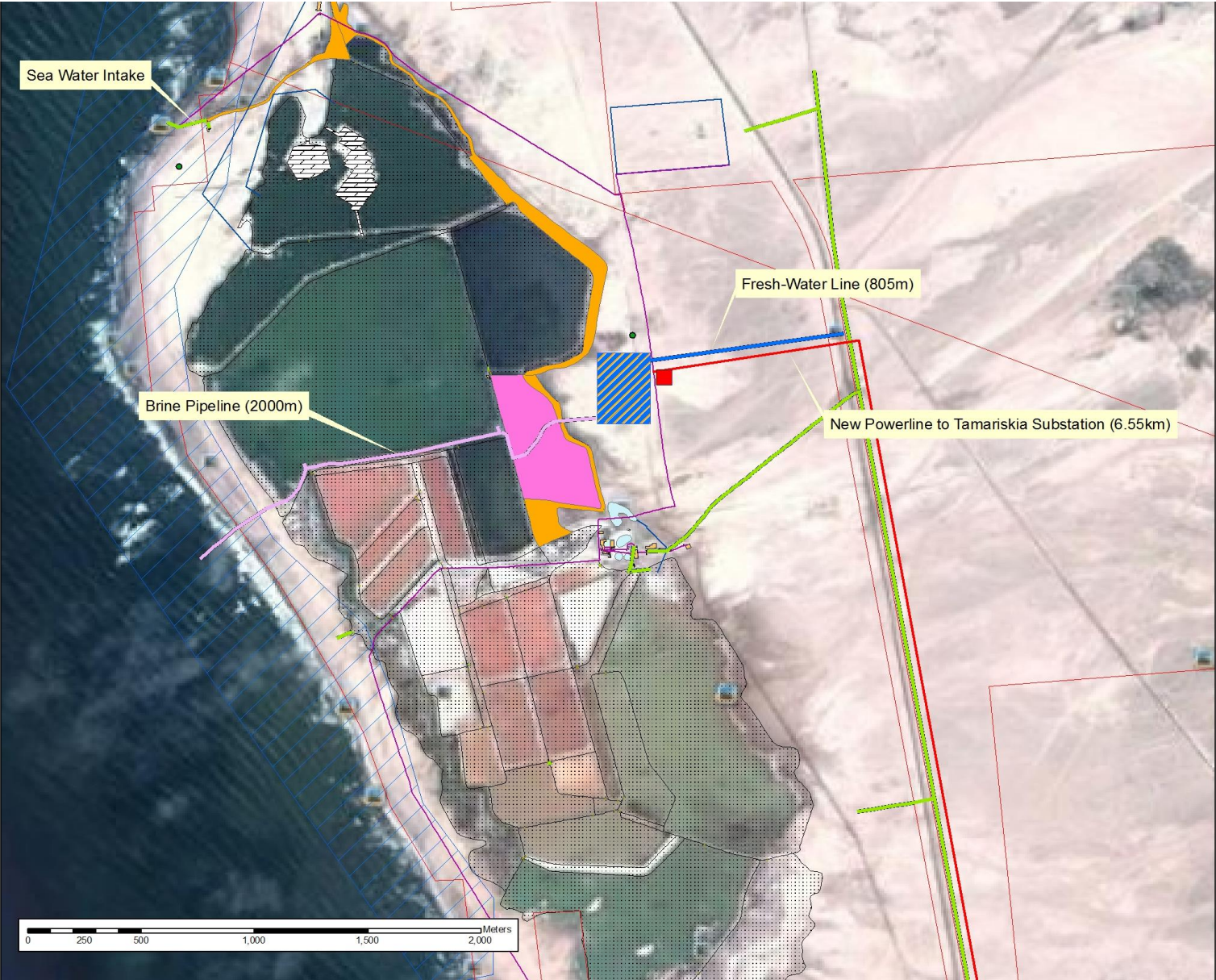
# Reverse Osmosis Process



## Proposed Desalination Plant - description

- Brine 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
- 11 kV power supply of approximately 6 km with a dedicated transformer, switchgear and possible new substation at the plant.
- Desalinated water supply line of roughly 850m to the existing NamWater pipeline
- Related services and structures i.e. offices, access road, etc.





- Legend**
- New Substation
  - New Powerline
  - Existing Pipelines
  - New Brine Pipeline
  - Buffer Ponds
  - Fresh Water Line
  - ▨ Desalination Plant
  - Seawater Channel
  - ▨ Accessory Works Area

# SEIA PROCESS

## SEIA phases

### Phase 1: Project initiation/screening

- Internal screening (site visits / identify social and environmental issues)
- Meeting with MET
- July 2014

### Phase 2: Scoping

- Notification
- Public participation process (including meetings)
- Scoping Report and Issues Response Report
- Comments period on Scoping documents
- July to October 2014

# SEIA phases

## Phase 3: SEIA

- Specialist investigations
- SEIA Report and Social and Environmental Management Plan (SEMP)
- Comment period on SEIA documents
- Submit final Reports to the MET
- MET review starts
- October 2014 to January 2015

Record of decision from the MET



## Report distribution

- Language – English
- Report summaries - E-mail to registered IAPs
- Complete reports
  - Swakopmund Library
  - National Library of Namibia in Windhoek.
  - CD's on request

# Potential Environmental Issues

- Shoreline environment
  - Construction activities and concentrated discharge may cause disturbances to environmentally sensitive beach areas.
- Marine environment
  - *Intake*: risk of mortality of plankton, fish eggs and fish larvae when water is sucked in at the inlet areas.
  - *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.
- Avifauna
  - Power line may pose a risk to local avifauna (potential for collisions)
  - Changes to the existing surface water structures in the area may also impact the local faunal residents and migrants.

# Potential Environmental Issues

- Social and economic impacts
  - The development of an additional source of water may have economic implications for other water users in the region.
- Noise
  - The use of high-pressure pumps at RO plants can generate noise. Possible increase in noise levels – impact on nearby receptors (i.e. at Mile 4).
- Visual
  - New structures will be erected that may cause negative visual impacts.
- Archaeology
  - Construction activities impacting on possible archaeological or historical resources within the area

# Environmental Team

<b>SEIA component</b>	<b>Responsible party</b>
<b>SEIA Lead</b>	SLR & Aurecon
<b>Social</b>	Ashby Associates cc
<b>Economic assessment</b>	Design & Development Services cc
<b>Historical and archaeological</b>	QRS
<b>Noise</b>	Airshed Planning Professionals
<b>Visual impact and mitigation</b>	VRM Africa
<b>Marine and coastal birds</b>	African Conservation Services cc
<b>Shoreline dynamics</b>	WSP Group Africa (Pty) Ltd
<b>Intertidal Topographic survey</b>	Alan Louw (Nam) Marine Services
<b>Waste water discharge modelling in the marine environment</b>	WSP Group Africa (Pty) Ltd
<b>Marine ecology</b>	Pisces Environmental Services (Pty) Ltd

# THANK YOU!

## Comments and questions

Fax/Mail further comment to Werner Petrick

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