

EIA FOR THE PROPOSED NAMWATER DESALINATION PLANT:

**MEETING RECORD FROM FIRST SCOPING MEETING WITH KEY STAKEHOLDERS
HELD ON 4 DECEMBER 2008 AT 14:00 AT ROSSMUND GOLF CLUB, SWAKOPMUND**

Present from NamWater and the EIA Team:

Johan Botha (JB), NamWater
Willem Venter (WV), NamWater
NP Du Plessis (NPdP), NamWater
Ehrenfried Honga (EH), NamWater
Paul Lochner (PL), CSIR
Stephanie Dippenaar (SD), CSIR
Stephanie van Zyl (SvZ), Enviro Dynamics

Appologies:

André Brummer, Walvis Bay Municipality
Lima Maartins, Valencia Uranium (Pty) Limited

See the attached complete attendance list.

This record is intended as a summary of the main points of discussion and outcomes of the meeting. A detailed issues trail is being kept of input received, which will be made available at the end of the EIA Process with the draft documents.

Participants:

- Key stakeholders from authorities and local mines;
- CSIR environmental team (project leaders, public participation expert); and
- NamWater representatives.



Purpose of the meeting:

- Inform key stakeholders about the project;
- Present EIA procedure; and
- Identify impacts for inclusion in the Draft Scoping Report.

1. Welcome - Enviro Dynamics (Stephanie van Zyl)

Ms. Van Zyl welcomed the attendees and gave an overview of the purpose and agenda of the meeting.

2. Introduction and overview of the proposed project – NamWater (Johan Botha and Willem Venter)

Johan Botha provided an overview of the strategic context of the proposed desalination plant and explained its importance and rationale at national, regional, and local levels. He provided the history leading to NamWater making the decision to implement the project.

Willem Venter presented the technical details and conceptual layout of the project. He also discussed the requirements for downstream infrastructure corridors (including an overhead power line and water pipeline) and their potential routes.

The following issues were discussed in response to the presentations:

- Although the decision to implement the project was made before the present global credit crisis, which has led to escalating costs, there are other factors which influence the decision too, chiefly the need to secure water supply to the Erongo Region.
- An old pipeline within the municipal area will become redundant as a result of this project. Its possible decommissioning and the future use of the land taken up by its servitude which is presently unutilised should be considered. Redundant servitudes need to be de-registered. The pipeline route should be considered in line with and included in the 20-year Master Plan for Swakopmund, which has recently been drafted.
- An above ground pipeline from the desalination plant will help prevent uncontrolled access into the desert. However, an above ground pipeline could cause accidents, thereby placing the security of water supply at risk.

- Even though the brine that will be released back into the sea will be free of bacteria because it will go through ultra filtration, it is recommended that this water be regularly monitored for bacterial content.
- There would be evaporation dams provided within the development area for disposal of solid waste. Solids derived from the treated seawater contain impurities concentrated in the brine which will have a negative impact if returned to the ocean. Precipitates will be disposed at the municipal waste disposal facility.
- The alternative of supplying the brine to the adjacent salt mine could be considered. The plant nevertheless needs a back up discharge facility for returning the brine to the sea, as it cannot be dependant on the salt mine for removing the brine.
- A two-track road will be created along the power line. Nampower must align the power line route along existing infrastructure corridors particularly roads which could provide the required access, instead of creating a new roads breaking up the desert even further and increasing access into the desert. It is important to align the route in a west-east direction to avoid the main bird migration paths and because this is the shortest route to the connection with the Dolerite line.
- If cost effective, the same type of membranes used at the Uramin desalination plant for the membranes may be used for the NamWater desalination plant to mitigate the risk of unavailability of membranes and reduce the stock levels. There, however, needs to be flexibility in the approach.
- To minimise disturbance to the benthos, diffusers will be fixed to the brine discharge pipe (600m from the shore line) to ensure gradual release back to sea.
- The discharged water is partly treated to reduce the need of maintenance on the discharge pipes. Once installed, the discharge pipe is virtually maintenance free. The growth of organisms on the nozzles is an issue which is presently being investigated.
- The mines will be responsible to store their back-up water supply. NamWater is responsible to create two days storage capacity for water supply to local authorities. The NamWater Mile 6 Reservoir will only be a balancing reservoir which will be operated at 50% capacity.
- The first phase of the project is to produce 15 million m³/annum of water. It can be run with a minimum of two trains, but is designed for five trains. The plant will be modular and expandable to 25 million m³/annum and eight trains. It is also possible to vary the capacity of the trains.

3. Approach to EIA Process and public participation – Enviro Dynamics

Stephanie van Zyl presented the EIA process as carried out in Namibia according to country's Environmental Assessment Policy (1995) and Environmental Management Act (2007), which has not yet been enacted. She explained the envisaged public participation process for this study and provided a preliminary timeline for expected deliverables. (See the attached presentation).

4. Issues identified and approach to specialist studies – CSIR

Paul Lochner presented a list of issues identified so far and provided a brief explanation of each. He emphasised the fact that the list was preliminary and requested that the audience, during the meeting, assist to expand on the preliminary issued list. Mr. Lochner also provided the list of specialists that will be involved during the full investigation phase. (See the attached presentation).

5. Discussion and identification of issues – Enviro Dynamics

The following issues were identified by the key stakeholders:

- The effect of a possible oil spill at the intake.
- The long-term erosion of the coastline could affect the proposed project.
- Alternative sites for the desalination plant need to be considered. An inland site is restricted by the costs associated with the length and associated costs of the inlet and discharge pipelines to the plant. The site selection for the plant was discussed:
 - NamWater has conducted a bathymetric survey for the coastal area from the Swakopmund saltworks for 4 km northwards and extending 2km offshore. The site could be any where within this 4 km section. Areas north and south of the 4km stretch have been eliminated for various reasons discussed. The desalination intake pipelines need to abstract water from the -10 m contour. . If the selected spot presents a fatal flaw, then NamWater will consider an alternative site.
 - For cost efficiency the plant should be as close as possible to Swakopmund and this should preferably be in an area used for industrial purposes (such as the present site close to the salt works), and away from pristine areas with high

tourism potential and sense of place. The reviewer also looked at the baseline information to assist with the selection of the 4km stretch.

- The plant cannot be south of the salt works, as the noise impact will be high for sensitive receptors (i.e. nearby residential area). The bathymetry to the north and south of the current 4km stretch is too gradual, thus requiring a longer pipeline to reach the required water depth. The central part of the study area (near Mile 6) offers the steepest offshore gradient.
- The influence of the new Swakop sewage works east of the bypass and north of the saltworks on the downstream pipeline and power line routes needs to be considered.
- The need was raised to put the proposed development in the strategic context of uranium development in Namibia. The real demand of water to the mines, and the risk of these mines closing, needs to be considered. Long-term versus short-term predictions of water demand vs supply need to be considered. The risk of the uranium oxide price collapsing and resulting mine closure/downscaling are important factors.
- The need for the plant should be considered in terms of present water demand for the surrounding communities.
- The future water to be supplied to the Swakopmund Reservoir which is a blend of Omdel Aquifer water and desalinated water will be of better quality than the water from the Omdel aquifer scheme only.
- The cost of water supply to local communities as a result of the construction and operation of the desalination plant was raised. Water from various schemes will be mixed, although the capital and operational costs of the desalination scheme will be recovered from the mines. The water tariff charged to the local authorities will however be subject to the normal inflationary increase until such time that the demand is greater than the safe yield of the aquifers
- The positive impact of the proposed development on the integrity of the Omdel and Kuiseb aquifers was discussed. The Omdel aquifer is already over abstracted; the sooner the desalinisation plant is built the better for this aquifer.
- There should be collaboration between the Uranium SEA and the desalination EIA teams, although it is recognised that the timelines of these two processes are different.

- The no-project alternative must be considered as part of the EIA.
- A substation at the plant is part of the development. The visual impact of this facility should be considered.
- The EIA will also investigate possible cumulative impacts.
- As indicated in studies that have been done at the salt works, bitterns do not disperse easily.
- Beach wells beneath the seabed (for water abstraction) are not an option for this project because of the input capacity needed for the desalination plant.

ATTACHMENTS

The following presentations are provided as attachments to these notes:

- Attendance list.
- Presentations by NamWater on the proposed project need strategic context and project description (introductory presentation by Johan Botha and engineering presentation by Willem Venter).
- Presentation by the CSIR and Enviro Dynamics team on the EIA process and issues identified to date.



ATTENDANCE LIST
EIA FOR THE PROPOSED DESALINATION PLANT NEAR SWAKOPMUND

Date: 04 December 2008
Place: Rossmund Golf Estate, Swakopmund

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