

**ENVIRONMENTAL IMPACT ASSESSMENT (BASIC ASSESSMENT) PROCESS:  
PROPOSED REVERSE OSMOSIS PLANT, IRON ORE HANDLING FACILITY,  
PORT OF SALDANHA**

**BACKGROUND INFORMATION DOCUMENT**

SRK Project 364470/42G

June 2007

**1. BACKGROUND**

Reducing the dust generated by the Iron Ore Handling Facility at the port of Saldanha will require increased water supplies. Transnet Limited ("Transnet") proposes to construct a Reverse Osmosis (RO) plant at the port for the desalination of sea water to meet the increased water demand. The Port of Saldanha is located approximately 120 kilometres north of Cape Town in the Western Cape Province (see Figure 1).

SRK Consulting and PD Naidoo & Associates (Pty) Ltd have been jointly appointed by Transnet (as the PDNA/SRK Joint Venture) to undertake the required **Basic Assessment** for the proposed Reverse Osmosis plant at the Port of Saldanha. This is an environmental assessment process required by the National Environmental Management Act No: 107 of 1998 (NEMA), as amended, and the Environmental Impact Assessment Regulations of 2006.

The environmental assessment will highlight and address the potential positive and negative environmental impacts associated with the proposed RO plant. Its success depends on active public participation.

This **Background Information Document (BID)** provides:

- a brief description of the project proposal;
- the reasons why the Basic Assessment is being undertaken;
- a description of the Basic Assessment process; and
- information on how you can participate in the Basic Assessment process.

**2. PROJECT DESCRIPTION**

The Iron Ore Handling Facility at the Port of Saldanha (including the proposed upgrades to the facility) requires a total of 3600 kl of water per day. The municipality currently supplies water to the Port, but Transnet propose to supplement or possibly offset this supply with desalinated sea water. This will require the construction of a Reverse Osmosis (RO) plant.

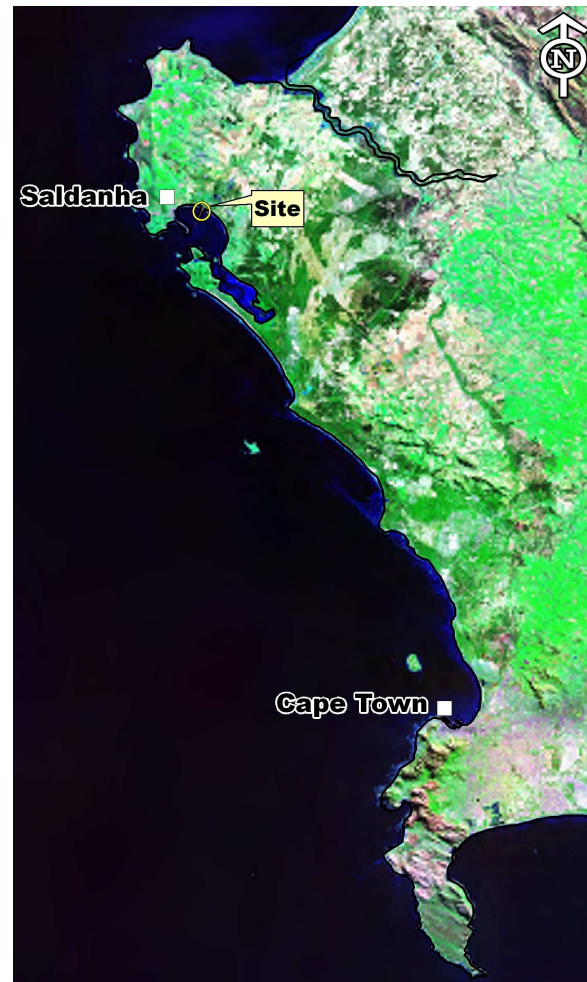


Figure 1: Site Location Map

The components of the RO plant installation include:

- An RO plant containment building (approximately 600m<sup>2</sup> surface footprint) with room for three RO modules, an electric sub station, a motor control room, a pump house, a store room, office and ablution facilities and space for parking;
- Sea water supply and brine discharge via pipelines or beach wells;
- Submersible pumps and piping for the extraction and discharge of sea water;

- A sea water storage tank alongside the RO building;
- A potable water storage tank alongside the RO building;
- Storage reservoir(s) totalling 5Ml, 48 hour potable water storage capacity next to the existing reservoir;
- A small service road connecting the RO building to the nearest road infrastructure; and
- All requisite electrical and communication facilities between the RO installations and the Iron Ore Handling Facility.

The basic process for the treatment of water in the proposed RO plant is discussed below (refer to figure 2):

Sea water is pre-filtered through beach wells and pumped to a buffer storage tank. The salt water is then pumped at high pressure through to the RO membranes. The desalinated water is piped to the potable water tank and the concentrated sea water (brine) is released back in to the ocean through beach wells or outfall pipes.

### 3. PROJECT MOTIVATION

Iron ore exports are a major contributor specifically to the Northern and Western Cape economies and the gross domestic product of South Africa. International demand for iron ore increased rapidly in recent years resulting in increased exports through the Saldanha Iron Ore Handling Facility. This has resulted in an increased demand on site for the suppression of dust generated by the facility.

The iron ore facility is situated within the West Coast District Municipality, a region with limited water resources and controlled municipal water allocation. Alternative water resources are therefore needed to meet present and future demands from dust mitigation activities. This will make more potable water available for other uses in the area.

### 4. ALTERNATIVES

A Transnet feasibility study has indicated that desalinated sea water is the most appropriate source of water for the specific purpose in terms of water quality and costs. Alternative water sources investigated in the study include additional potable water, reclaimed sewage (treated effluent), groundwater, seawater and desalinated seawater (using reverse osmosis). Due to the potential environmental costs, these alternative water sources will not be considered any further by this EIA process.

Three alternative locations within the Port of Saldanha are being considered for the location of the RO plant, as indicated in Figure 3. These are:

- **Alternative 1:**  
Located to the east of the Iron Ore Handling Facility. The RO plant would be situated in the vicinity of the coastal dunes, with the brine discharge wells and seawater supply wells located on the beach to the east of the existing reclamation dam stone revetment. Brine discharge would be into the larger Saldanha Bay.
- **Alternative 2:**  
Located north and northwest of the Iron Ore Handling Facility. The RO plant would be established in an area currently containing stockpiles of gravel and construction rubble. Due to the relatively small area of beach, sea water supply and brine discharge wells potentially can not be accommodated, and supply and outlet pipes would need to be considered. Brine discharge will be into the smaller Saldanha Bay.
- **Alternative 3:**  
Located on the southern section of the Quay of the Iron Ore Handling Facility. The RO plant would be positioned on a gravel area adjacent to the Multipurpose Terminal. There is no beach in this area. Sea water supply and brine discharge would need to be via pipes rather than discharge wells. Brine discharge would be into the smaller Saldanha Bay.

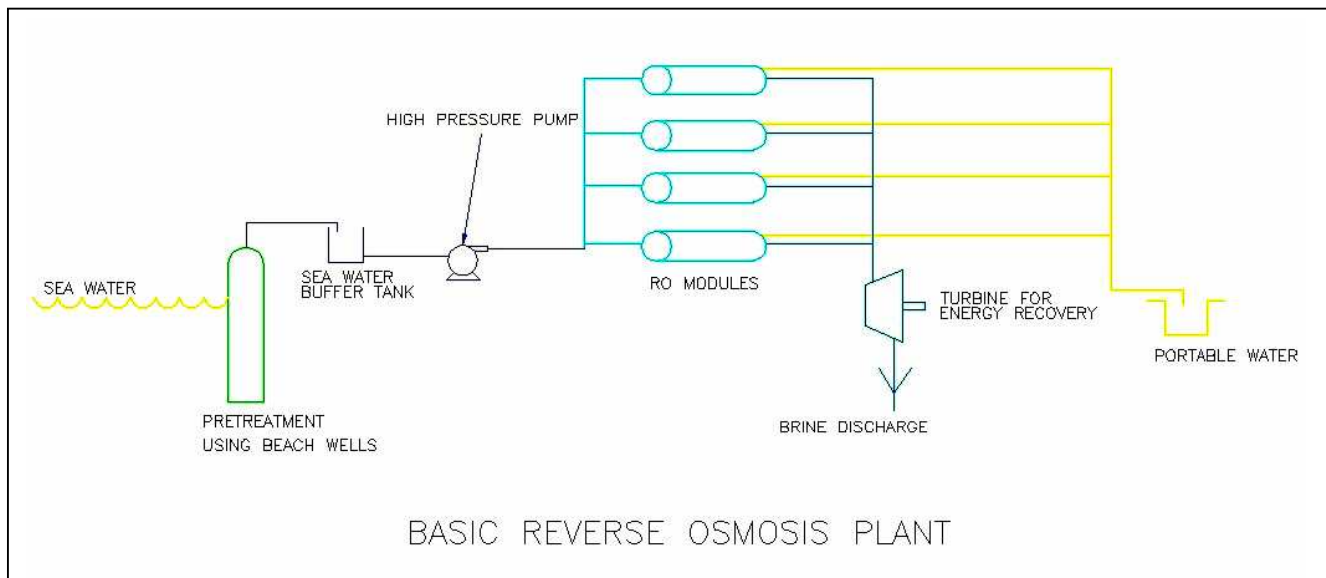


Figure 2: Indicative components of an RO Plant

Pipelines and associated infrastructure would differ in length and location for each of the alternatives. The storage reservoir(s) would be located in the same area for all three alternatives i.e. adjacent to the existing reservoir.

## 5. SITE DESCRIPTION

The Port of Saldanha is located in Saldanha Bay, on the west coast of South Africa, approximately 120km north of Cape Town. Saldanha Bay forms the northern end of a large enclosed marine system, which includes the Langebaan lagoon.

Each of the three sites being considered as alternatives for the establishment of the RO Plant have been described in more detail in Section 4. All three alternative sites are situated within the Port of Saldanha, on property owned by Transnet and zoned for activities associated with the port.

## 6. WHY IS A BASIC ASSESSMENT BEING UNDERTAKEN?

The EIA Regulations<sup>1</sup> list certain activities that are considered potentially harmful to the environment, and thus require a Basic Assessment process to be followed. In respect of the proposed RO Plant there are a number of applicable listed activities which require a Basic Assessment to be undertaken. These activities may include:

- (2) The Construction of earthmoving activities in the sea or within 100 metres inland of the high water mark of the sea, in respect of: (d) embankments; (e) stabilising walls; (f) buildings and (g) infrastructure;
- (3) The prevention of the free movement of sand, including erosion and accretion, by means of planting vegetation, placing synthetic material on dunes and exposed sand surfaces within a distance of 100 metres inland of the high-water mark of the sea;
- (5) The removal or damaging of indigenous vegetation of more than 10 square meters within a distance of 100 metres inland of the high-water mark of the sea;



Figure 3: Alternative site locations

<sup>1</sup> Basic Assessment Regulations, 2006 in terms of the National Environmental Management Act (No 107 of 1998)

- (6) The excavation, moving, removal, depositing or compacting of soil, sand, rock or rubble covering an area exceeding 10 square metres in the sea or within 100 metres inland of the high water mark of the sea; and
- (12) The transformation or removal of indigenous vegetation of 3 hectares or more of any size where the transformation or removal would occur within a critically endangered or an endangered ecosystem listed in terms of section 52 of the National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004).

Before undertaking any listed activity, the proponent (in this case, Transnet Limited) is required to obtain authorisation in terms of the National Environmental Management Act from the competent authority. The competent authority is the Department of Environmental Affairs and Tourism (DEAT).

To apply for the authorisation of such listed activities, the proponent must appoint an independent environmental consultant (in this case, PDNA/SRK JV) to undertake a Basic Assessment. The Basic Assessment must provide the authorities with sufficient information on the potential environmental impacts and benefits associated with the proposed activities to enable them to make an informed decision regarding the application. The proponent must also ensure that the principles of sustainable development espoused in the NEMA are adhered to.

## 7. WHAT IS INVOLVED IN THE BASIC ASSESSMENT PROCESS?

The Basic Assessment process consists of two steps as illustrated in Figure 4.

### Step 1:

The first step is the submission of a Notice of Intent to Submit an Application for the proposed development. This form was submitted to DEAT on 25 May 2007 and acknowledgement of the receipt, indicating that the proposed Basic Assessment could proceed, was received from DEAT on 12 June 2007.

### Step 2:

The next step is the Basic Assessment process which comprises the compilation and public review of this document (the BID), a Draft Basic Assessment Report and a Final Basic Assessment Report. Once the final comment period is complete, the Application Form and Final Basic Assessment including a Public Comment Report is submitted to DEAT, whereafter the authorities take a decision on whether the development can be authorised or not.

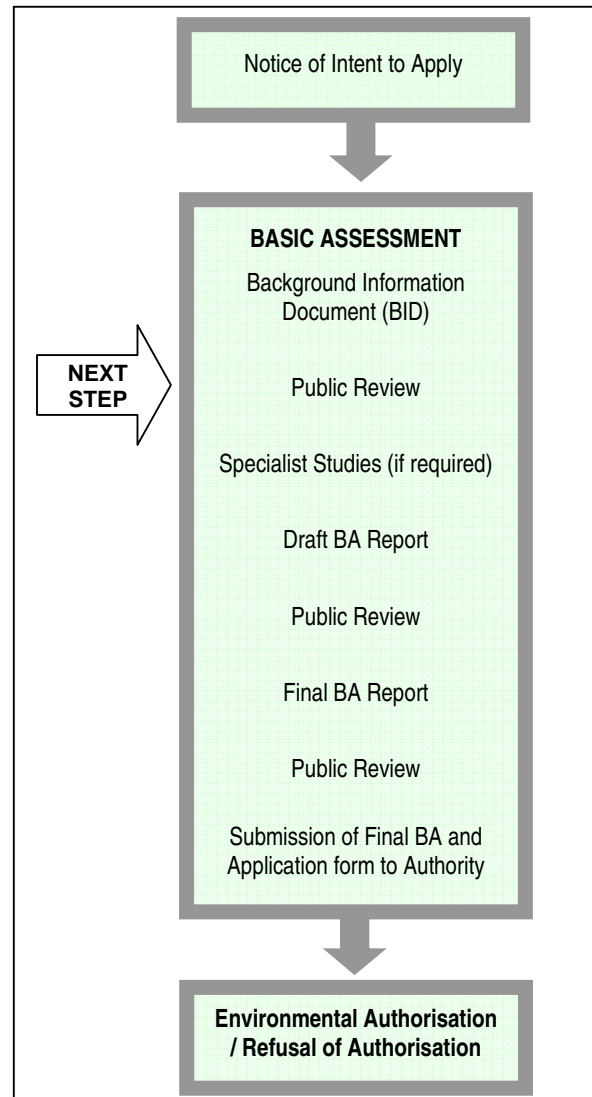


Figure 4: Diagram of the Basic Assessment Process

The aims of the Basic Assessment process are to:

- Notify the public of the proposed development;
- Inform the public about the Basic Assessment process;
- Provide the public with information about feasible conceptual development alternatives for the site;
- Provide the public with the opportunity to participate effectively in the process and identify relevant issues and concerns;
- Develop the Terms of Reference for specialist studies which may be required to assess potential impacts;
- Ensure that the issues and concerns of Interested and Affected Parties (I&APs) are addressed in the assessment and are accurately recorded and reflected in the Basic Assessment and Public Comments Reports;
- Assess the potential positive and negative impacts associated with the proposed land-use options for the site; and

- Make recommendations as to how the potential negative impacts can be effectively mitigated and the benefits enhanced.

Consultation with the public, relevant stakeholder groups and authorities forms a critical part of the Basic Assessment process. The public participation process provides all I&APs with a number of opportunities to raise issues and concerns that should be addressed in the Basic Assessment process.

## 8. PROGRAMME OF ACTIVITIES

A Notice of Intent notifying DEAT of the proposed development was submitted on 25 May 2007. It is envisaged that the Final Basic Assessment report and Application Form will be submitted to DEAT in April 2008.

Table 1 outlines the envisaged activities and *approximate* timing for the process.

**Table 1:** Anticipated Programme for the Basic Assessment

Task	Approximate Dates
Submission of Notice of Intent to Apply to DEAT	25 May 2007
Advertisements to announce commencement of Basic Assessment and register I&APs	Mid June 2007
Distribution of Background Information Document	Mid June 2007
1 <sup>st</sup> Comment Period	Mid June – Early August 2007
Specialist studies	Mid June – late August 2007
Release of Draft Basic Assessment Report for public review	Late September 2007
2 <sup>nd</sup> Comment Period	Early October – Early November 2007
Public Meeting (if required)	Mid October 2007
Release of Final Basic Assessment Report for public review	Late November 2007
3 <sup>rd</sup> Comment Period	Late November 2007 – Mid February 2008
Submit final Basic Assessment Report & Application Form to DEAT	Early April 2008

## 9. HOW CAN YOU GET INVOLVED?

PDNA/SRK JV would value your input into the Basic Assessment process. There are a number of ways in which you will be able to participate in, and comment on, the proposed project throughout the process.

At this stage if you or your organisation would like to be involved in the Basic Assessment process and receive further information, or know of any individual or organisation who would like to participate in the Basic Assessment process, please **submit your contact details for registration** as an I&AP on our database, by the **6 August 2007**.

Additionally, if you have any preliminary comments or questions regarding the project following the review of this document, please submit your comments, in writing, to **Sharon Jones** or **Monique Sham** of PDNA/SRK Joint Venture, by **6 August 2007**.

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