

Issues Raised by Interested and Affected Parties for the proposed Reverse Osmosis Plant, Saldanha

The Final Comments and Responses Report has been updated and modified based on comments received during the public comment period on the Draft Basic Assessment Report. Additional or modified text is indicated in the Final BA Report, and this Comments and Responses Report as underlined and italicised text.

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Access and Traffic Impacts	Where will access to the plant be gained from as provision may need to be made in the plans for the MR559? Any new accesses from MR559 will need separate approval from the Department of Transport & Public Works.	14/06/07	WM Silbernagl (Dept of Transport & Public Works)	It is proposed that access will be from existing roads within the port boundaries for all the site alternatives, thus no new accesses from MR559 will be needed. The volume of traffic expected to and from the proposed RO Plant during the operational phase would be very small.
	What will become of the brine/salt residue? Would there be ancillary works to use the by-products and if so where will they be located, as this may impact on traffic generation.	14/06/07	WM Silbernagl	The brine will be discharged back into the sea via pipelines. It is not the intention to make use of the brine for other purposes (see Section 7.4.3 of the Basic Assessment Report), and there will not be any impact on traffic generation as a result of this.
Brine discharge & wastewater discharge	The increase in salinity in the bay due to brine discharge is an issue.	14/06/07 14/12/07	M. Rothenburg	The impact of the brine discharge has been assessed in the Marine Impact Assessment (Appendix G to the Basic Assessment (BA) report). The salinity of the brine discharge will be 63.5 parts per thousand (ppt), approximately 1.8 times the salinity of normal sea water. The marine modelling indicates that the maximum salinity brine plume is very limited at all three of the sites.
	Sites 2 and 3 will have a negative effect if brine is pumped back due to a higher salt concentration and the circulation of water in small bay is not very good.	18/06/07	J.C. Carstens (I&AP)	The impact of the brine discharge has been assessed in the Marine Impact Assessment (Appendix G to the BA report) and concluded that the impact of the brine discharge would be low at the preferred alternative. Alternative methods of brine discharge at both of the sites were assessed including a surf-zone discharge and a single port diffuser . In addition, discharge into Big Bay was also assessed as an additional alternative at Site 3. This modelling took into consideration the circulation of water in Small Bay.
	What is the salinity of the brine?	18/06/07	J.C. Carstens	The brine is estimated to be 1.8 times the salinity of normal sea water (63.5 ppt). This will however vary depending on the efficiency of the reverse osmosis process (and the state of the membranes). The maximum salinity of the brine is however not expected to exceed 63.5 ppt.
	What would be the anticipated daily volumes of the brine discharge?	26/07/07	Y. Peterson (MCM)	4 400m ³ /day of brine would be discharged once the RO plant is operating at full capacity (i.e. 3 RO modules). This has been modelled in the Marine Impact

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				Assessment (Appendix G to the BA report) in order to provide a holistic assessment. Initially only 1467m ³ /day would be discharged (from 1 RO module).
	Will the brine be pumped back into the surface layer of water or into deeper water and what will the effect be if it is discharged at a depth of +-10m than into the surface layer?	18/06/07	J.C. Carstens	A number of alternatives have been assessed for discharge of brine, including discharge via beach wells , a surf-zone discharge and a single-port discharge at depth , and the results of this assessment are available in the Marine Impact Assessment (in Appendix G of the BA report). The impact of discharging the brine at depth will differ depending on the location of the discharge point. The marine specialists have modelled the “worst case” scenario at each site alternative and have provided commentary on design options that can help reduce the impact of the brine discharge on the receiving environment (such as discharging the brine via a single- or multi-port diffuser).
	Discharges of brine will increase local salinity and reduce oxygen levels, especially impacting benthos fauna.	02/07/07	T. Williams (I&AP)	The impact of the brine discharge on the benthic fauna has been assessed for all the discharge alternatives by the marine specialists, and presented in the Marine Impact Assessment available in Appendix G of BA report. The marine specialists have been in contact with the engineering team throughout the process, and have provided the engineers with relevant information to help them design a discharge option which can help to ameliorate the effects of discharging the brine by ensuring that the brine is mixed through as much of the water column as possible.
	If the brine discharge point is in a calm area within the Bay it could settle as a brine-plume at the bottom of the ocean bed. The desalination plant should thus be situated where the brine is discharged in an area with continuous vigorous wave action to enable concentrated brine to be broken up. Wastewater brine must be disposed of in an ecologically sound and economically feasible manner.	02/07/07	T. Williams / C. van der Berg (Langebaan Ratepayers and Residents Association)	It is proposed that brine be disposed of into the sea, and the wastewater (resulting from the intermittent cleaning of the membranes and filters) will either be disposed of in the municipal sewer or removed by a private contractor. The impacts of discharging brine at any of the site alternatives have been assessed by the marine specialists, and the Marine Impact Assessment is available in Appendix G of BA report. The preferred discharge option is at the end of the quay (at caisson 3) where discharge will occur in relatively deep water, where there are strong tidal flows and a potential mitigation factor of propeller wash to help disperse the effluent.

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	<p>Will the pre-treatment and desalination processes involve the use of chemicals, and if so, how will these be neutralised or removed before the brine is discharged?</p>	<p>26/07/07</p>	<p>Y. Peterson (MCM)/ M. Duckitt (I&AP)/ F. Albertus-Stanley (MCM)</p>	<p>A list of all the chemicals that will be used in the process, as well as how and where each of them will be disposed of, has been provided in Section D of the BA Form. The seawater pre-treatment chemicals (biocides, coagulants, anti-scalants) will be discharged with the brine, and the marine specialist has considered these in the assessment of marine impacts. Other cleaning chemicals will be contained in wastewater, which is not considered suitable for disposal into the sea, and will be disposed of either via the municipal sewer system for treatment, or removed for disposal at a suitable disposal site. Mitigation measures and monitoring programmes have been proposed in the Basic Assessment Report, to manage and monitor the potential impacts associated with the discharge of chemicals contained in the brine.</p>
	<p>Discharges will contain heavy metals due to corrosion in the plant; it is also likely to contain: anti-fouling, anti-scaling, anti-corrosion and anti-foaming additives, chlorine, acids, all commonly applied in pre-treatment stages to prolong the working life of the plant. All of these have negative impacts on the receiving environment.</p>	<p>02/07/07</p>	<p>T. Williams</p>	<p>A list of chemicals that will be used in the RO process has been provided and is available in the BA form and report. All the specialists have received this list and have assessed the impact of the chemicals being discharged with the brine. The potential impact of heavy metals discharged with the brine are predicted to be low, but monitoring of the discharge brine for heavy metals will be a requirement if the RO Plant is authorised. Anti-corrosion and anti-foaming additives are typical of multi-stage flash desalination plants and not RO desalination plants and are not specified as additives for the proposed RO plant in Saldanha Bay.</p>

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	<p>Is there not another means of disposing of the brine? Perhaps using it in some economically positive way such as pumping it to Cerebos (salt works) where it can be used to obtain salt? Or perhaps pumping the brine into evaporation ponds and Cerebos can fetch the salt?</p>	02/07/07	T. Williams / P. Fabricius / K. Harrison (West Coast Bird Club)	<p>Other options of using the salt from the brine have been investigated. The Cerebos Salt Works was approached and did not indicate that the brine would be of any use to their process. <u>They indicated that they have an excess capacity at the works for brine production and their bottle neck is in the salt refinery thus they would not be interested in purchasing the brine by-product from the RO unless they were to upgrade their production. Their daily production is about 140 tons per day of raw salt, which is much lower than the potential 280 tons of salt that the RO Plant could deliver. The economic value of the brine is relatively low because of the concentration of the brine (6.3%) is fairly low (crystallisation of salt starts at 25%).</u></p> <p>The option of installing an evaporator and crystalliser plant in order to obtain the salt from the brine (and to give a zero discharge back to the sea) involves prohibitively high capital cost and operating costs (including, but not limited to, costs associated with increased power supply).</p> <p>Another option that has been investigated is the use of evaporation ponds, which would allow for the recovery of salt. The area that will be needed for evaporation ponds is estimated to be 2km x 2km. There is no suitable area of this size near the port in Transnet's jurisdiction that can be used for evaporation ponds. The construction of an evaporation pond near the Iron Ore Handling Facility would have a negative impact on the primary dune system in the area (refer to Section 7 in the Basic Assessment Report for a further discussion).</p>
	<p>Small Bay is already very affected by the discharge from the fishing industries in Saldanha. This must be considered in the overall impact of the brine discharge.</p>	05/07/07	W. Kloppers (DWAF)	<p>The marine specialist has considered the existing discharges in Small Bay in the Marine Impact Assessment (refer to Appendix G of the BA report), and commented on the cumulative impacts on water quality in the Bay.</p>
	<p>A modelling study, based on 3-D model used in prior water quality assessments and projections in Saldanha Bay, should be implemented on the various proposed discharges of the brine into the ecosystem to determine plume movement and concentration dispersion and possible negative impacts thereof on environment. The impact in the case of no current movement in the Bay (i.e. very calm weather) should also be investigated.</p>	16/07/07	C. van Wyk (SBWQFT) / F. Albertus-Stanley (MCM)	<p>A marine specialist from the CSIR has undertaken 3D hydrodynamic and water quality modelling of the proposed brine discharge points into the marine environment. The worst-case scenario of very calm weather and no current movement was modelled. The scenarios that have been modelled are summer (highly stratified water column), winter (well-mixed water column) and a representative calm period (calmest month over a long period [April to June]). Refer to the Marine Impact Assessment (Appendix G of the BA Report) for further details.</p>

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	Specialist studies should also address the effect of the brine on various environmental indicators e.g. plant species (like <i>ulva</i> and <i>gracillaria</i>), meiofauna, macrofauna, fish, etc. in the specific marine ecosystem.	16/07/07	C. van Wyk (SBWQFT)	A marine ecologist has assessed the effect of the brine discharge on various environmental indicators in the specific marine system at each of the site alternatives. This has been included in the Marine Impact Assessment in Appendix G of the BA Report).
	Studies and modelling undertaken should be done on the maximum potential effluent to be discharged and not only the proposed first phase of the RO system.	16/07/07	C. van Wyk (SBWQFT)	All specialist studies have investigated the maximum potential effluent that will be discharged once the plant is operating at full capacity (3 RO modules), with a brine discharge of 4,400m ³ /day. It is however proposed that only one (1) RO module with a brine discharge of 1467m ³ /day be installed initially with a further two to follow in accordance with future phasing requirements.
	To what extent will the elevated salinity affect migration of fish away from the bay and to what extent could the elevated salinity impact negatively on mariculture production (i.e. seaweed and mussels)?	02/07/07	Y. Peterson (MCM)	The Marine Impact Assessment (Appendix G of the BA Report) has assessed the impact of the brine discharge on the migration of fish species and mariculture. There are no known migration pathways in the bay system; however the main impact on the migration of fish is not due to the increase in salinity but rather due to the increase in temperature (thermal barriers). It is anticipated that the discharge will only vary by approximately 1 degree Celsius as compared to the intake water. Sensitivity studies of the modelling results and associated impact assessments to temperature elevations of zero to a maximum of 5 degrees Celsius between the intake and discharge, have been undertaken. There is negligible change in the effluent plume characteristics and behaviour beyond an immediate "mixing zone" for the above range (0 to 5 degree Celsius) in temperature elevations. Changes in plume characteristics are observed within a radius of approximately 30m of the discharge point but these are not significant. For thermal barriers to limit or alter marine organisms' migration paths they need to be persistent over time and cover a large cross-sectional area of the water body - the marine modelling has indicated that the brine plume distributions will not display these characteristics in Saldanha Bay. The Marine Impact Assessment takes cognisance of the fact that discharge at Site 2 will occur in the relatively poorly-flushed Small Bay system that supports a number of mariculture activities and would thus inherently pose greater risks compared to the other sites.
	How will the discharges affect water clarity and light penetration into the water column?	02/07/07	Y. Peterson (MCM)	The impact of brine discharge on water clarity and light penetration in the water column has been addressed in the Marine Impact Assessment (Appendix G of the BA Report). The indirect impact of the discharge on the water clarity and the light penetration is difficult to quantify. The brine discharge can increase water turbidity which is likely to reduce light penetration and which may disrupt photosynthetic processes and the productivity of phytoplankton and algal growth. It has not been identified as a significant impact by the marine specialists.

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	<u><i>It seems that the impact of the brine discharge would have much less effect the further it is discharged from the Small Bay and Big Bay areas (outside the breakwater).</i></u>	<u>20/03/08</u>	<u>L. Uys (HoD Nautical Science)</u>	<u><i>If discharged outside the bay (and away from any sensitive areas) there would be greater dispersion of the effluent due to increased wave action. Similarly the further out into the mouth of the bay the discharge of the effluent, the greater will be its dispersion. However, given the relatively low volumes of brine to be discharged and the limited (low) anticipated impacts at the preferred discharge location, the benefits of increased dispersion for sites further out of the bay or beyond the bay are unlikely to warrant the increased engineering (and in some cases environmental) risks and high capital and operational costs associated with these options</i></u>
	<u><i>The Draft BA Report states that biocide (non-oxidising) release is dependant on dosing regime and management abilities. This is an area where human error could occur and where release of very toxic agents into the natural environment is dependant on the operator's ability (pg 169 of the Marine Study).</i></u>	<u>19/03/08 01/04/08</u>	<u>C. van Wyk / J. Kotze (Langebaan Ratepayers Association)</u>	<u><i>The dosing of biocide will be carefully controlled and residual amounts of biocide in the brine will be closely monitored. Engineering design will ensure that human error is eliminated as far as possible. A monitoring programme has been strongly recommended in the BA Report as being part of a condition of authorisation by DEAT. Details of the proposed monitoring are included in Section 9.3.2 of the BA Report.</i></u>
	<u><i>The current ecosystem is already under stress and would not be able to handle the proposed effluent stream successfully.</i></u>	<u>19/03/08</u>	<u>C. van Wyk</u>	<u><i>It is acknowledged that there are existing stresses on the bay, particularly Small Bay. For this reason an iterative approach was taken in determining the environmentally best options for the proposed discharge into the marine environment. The assessment of potential impacts indicates that the impacts of the proposed RO plant are predicted to be low, especially if beach-well or borehole intakes are used as this reduces the use of pre-treatment chemicals. Monitoring programmes have been specified to confirm these predictions and ensure that the plant is operated such that these impacts remain low. The marine specialist has assessed the impact of the brine discharge on the marine ecosystem at a number of site alternatives within the bay and has concluded that the preferred alternative has an insignificant to low impact (assuming mitigation measures are effectively implemented) on the marine environment (Site 3 with a discharge at Caisson 3, on the quay).</i></u>

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	<p><u>Both Big Bay and Small Bay as well as the mouth of the Langebaan Lagoon must be monitored for salinity and water quality, and impacts on marine ecosystems on a monthly basis as part of an ongoing environmental monitoring programme. The annual results obtained from this monitoring must be collated and analysed by a suitably qualified professional and be made available for use by the Saldanha Bay Water Quality Forum. These results must also be submitted to DEA&DP for record purposes annually.</u></p>	<p><u>31/03/08</u> <u>31/03/08</u></p>	<p><u>A. Gabriel (DEA&DP)</u> <u>S. Ralston (CapeNature)</u></p>	<p><u>A monitoring programme has been strongly recommended in the BA Report as being a condition of authorisation by DEAT. Monitoring includes the study of the impact of the brine on potentially affected communities, particularly the subtidal benthic communities, monitoring of the RO plant effluent after commissioning for heavy metals, toxicity testing of the RO Plant effluent at discharge point for a full range of operational scenarios (i.e. shock-dosing, etc) and monitoring (or audit of process chemical once the RO Plant is commissioned) to ensure that tainting substances are absent from the RO Plant effluent. Additional monitoring requirements will be included as recommendations in the Final Basic Assessment Report.</u></p>
	<p><u>Consideration must be given to alternate discharge points for the brine effluent from the plant. This must include options for discharge further out to sea.</u></p>	<p><u>31/03/08</u></p>	<p><u>A. Gabriel (DEA&DP)</u></p>	<p><u>The option of discharging brine outside the bay has been investigated. As positioning the entire RO plant outside of the Port Boundaries would make it difficult to control and maintain, only the positioning of intake and discharge pipes at the external location were considered. There are a number of difficulties associated with positioning the intake and discharge points outside the Bay, including the cost and time required to acquire land servitudes for pipelines from the plant to the intake and discharge points, as well as the associated permissions and approvals. The need for additional water for dust suppression is immediate, and the delays resulting from securing servitudes and additional approvals are thus of concern. In addition the operational costs and energy requirements for pumping intake water and brine discharge over such long distances will also be very high, making this option unfeasible (refer to Section 7.4 of the BA Report for additional information).</u></p> <p><u>The marine specialist has assessed the impact of the brine discharge on the marine ecosystem at a number of site alternatives within the bay and has concluded that the preferred alternative has an insignificant to low impact (assuming mitigation measures are effectively implemented) on the marine environment (Site 3 with a discharge at Caisson 3, on the quay).</u></p>

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	<u>We are of the opinion that the Saldanha Bay Municipality currently has insufficient capacity for sewage waste, and we object to the addition of any additional water to the already overstretched municipal wastewater systems as this is likely to lead to additional expansion/development costs to local ratepayers.</u>	<u>01/04/08</u>	<u>J. Kotze (Langebaan Ratepayers Association)</u>	<u>Written confirmation has been requested from the Saldanha Bay Municipality stating that there is sufficient capacity for the wastewater to be disposed of in the municipal wastewater system. Transnet have been in communication with Saldanha Bay Municipality who have verbally agreed to the disposal of the RO plant wastewater to the sewerage system.</u>
	<u>We strongly object to any chemicals being discharged into the bay until specialist knowledge regarding the impact has been obtained.</u>	<u>01/04/08</u>	<u>J. Kotze (Langebaan Ratepayers Association)</u>	<u>The Marine Impact Assessment (Appendix G of the BA report) has assessed the impact of the brine discharge on the receiving environment, taking into consideration the residual chemicals which may be contained in the brine. The marine specialists have used conservative water quality guidelines for biocides and the results plotted illustrate the maximum footprint within which the water quality guidelines are exceeded for periods ranging from 6 hours in a season to approximately 5 days in a season. <u>The marine specialist has assessed the impact of the brine discharge on the marine ecosystem at a number of site alternatives within the bay and has concluded that the preferred alternative has an insignificant to low impact (assuming mitigation measures are effectively implemented) on the marine environment (Site 3 with a discharge at Caisson 3, on the quay).</u></u>
	<u>There is no absolute guarantee that the pumping of brine into the bay will not affect the ecosystem, and for the sake of the environment it must be pumped into a high action area into the open sea.</u>	<u>27/03/08</u>	<u>M. Rothenburg</u>	<u>The Marine Specialists (CSIR) have assessed the impacts on the environment using the best science and technology available and norms of risk assessment. They have determined that there will be a degree of impact (insignificant to low), however based on their findings they believe these impacts to be spatially and temporally constrained as indicated in their report. Furthermore, the Marine Specialists, within existing knowledge, were not able to identify any large-scale ecosystem effects, certainly not on the adjacent RAMSAR site or Marine Protected Area's.</u>

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Marine Modelling	<u><i>It would be a valid point to include an estimated model of salinity, temperature and biocide etc for the planned expansions at the Port. All proposed future infrastructures planned for in the Port Master Plan should be incorporated into the current modelling exercise to have a more realistic forecast of the effects of the proposed effluent stream on the marine system.</i></u>	<u>20/03/08</u> <u>19/03/08</u>	<u>L. Uys</u> <u>C. van Wyk</u>	<u><i>The impact of the planned expansions on the hydrodynamics of the bay is currently being assessed in the Phase 2 EIA. The RO plant modelling study however indicates that the plume footprints are relatively constrained and unlikely to enter such deeper channels/basins as proposed in the expansion of the Port. If the brine does accumulate in deeper areas the cold upwelled bottom waters that regularly flood the bay (and these deeper channels) will be the mechanism by which the brine will be flushed from the near bottom waters. The increased penetration of cold bottom waters, together with the turbulence of shipping, is likely to limit any such “pooling” of brine in such deeper waters. The anticipated changes are highly unlikely to be as significant as to require a change in the conclusions of the study.</i></u>
	<u><i>The Marine Study indicates a plume footprint that is simulated under current environmental conditions, not taking shipping and proposed future civil infrastructures into account. The SBWQFT is of the opinion that the sacrificial zone will be more severe than the current anticipations and simulations. When future proposed dredged canals and dilution restrictions caused by ships anchored close to discharge point are taken into consideration the possibility or chance of a coherent density flow of brine along dredged canals is hugely increased.</i></u>	<u>19/03/08</u>	<u>C. van Wyk</u>	<u><i>Refer to discussion above regarding the issue of the brine entering the deeper channels. It is not possible to easily and explicitly simulate the effect of ships anchored near the proposed discharge. What is certain is that the propeller wash associated with shipping will help disperse any brine plume in these deeper channels, however the significance of this effect is not easily quantifiable.</i></u>
	<u><i>Is the reference “Day, JH, 1959. Biology of Langebaan Lagoon” still applicable in this scenario? This dates back to before the iron ore jetty was built and flow patterns would have been different. The jet stream exiting the Lagoon has also changed direction.</i></u>	<u>20/03/08</u>	<u>L. Uys</u>	<u><i>Within the context that it is used, the reference is appropriate. Section 5.2 of the Specialist Marine Report clearly describes what additional data is presently available of the relevance of such data in supplementing the work of Day (1959).</i></u>

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	<u>Meiofauna, macrofauna and other marine organisms are extremely sensitive to any biocides and anti-scalants. The effect on the food chain will be much bigger than the current simulated footprint. Plankton which is the feeding source of a lot of marine organisms will die off when washed through this plume.</u>	19/03/08	C. van Wyk	<u>Meiofauna, macrofauna and other marine organisms indeed are extremely sensitive to any biocides and anti-scalants. The marine specialists have used conservative water quality guidelines for biocides and also have plotted the maximum footprint whereby these guidelines are exceeded for periods ranging from 6 hours in a season to approximately 5 days in a season. The effect on the food chain is likely to be proportional to the area of impact relative to the total habitat available to the food item of concern. The impacts on phytoplankton are minimised by the fact that the plume remains in the lower half of the water column for all but the shallow water discharges at Sites 1 and 2.</u>
Water availability	What will happen to the current water being supplied by the municipality for dust suppression?	02/07/07	S. Schneier (MCM)	This water will not be re-allocated. Additional water over and above current municipal supply is needed for dust suppression at the terminal.
	The RO Plant is definitely a positive in terms of water supply and reducing the pressure on the municipality to supply water.	14/06/07 05/07/07 06/07/07	M. Rothenburg / W.Kloppers / P. Fabricius	Noted. It should however also be noted that the existing municipal water supply to the port, and the use thereof will not necessarily be reduced as a result of the RO plant, although this plant will eliminate the need for additional water to be obtained from the municipal supply.
	Is the option of a joint RO system to supply water to the surrounding port area being included in the EIA?	16/07/07	C. van Wyk (SBWQFT) / K. Harrison (West Coast Bird Club) / C. van der Berg	The option of linking to the municipal water supply could be considered by Transnet in the future, although the municipal planning in this regard for the larger area is not far enough advanced to meet Transnet's immediate need for additional water requirements in time. <u>It should be noted that the requirement for the standard of potable water is to safeguard the quality of the exported iron ore and avoid contamination of the product by industrial quality water. The primary aim is not to produce drinking water.</u>
Basic Assessment Process	Can the RO Plant only be a basic assessment?	23/07/07	M. Duckitt	DEAT have confirmed that this proposed activity requires a Basic Assessment. DEAT have also indicated that an RO Plant will specifically require a Basic Assessment in the amended EIA regulations, expected to be promulgated in April 2008. The specialist assessments which have been undertaken are however of the same detail and standard as would have been required in the case of a Scoping and EIA process.

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	Referring to Listed Activity 1(f) in GN 387, how can an RO Plant have no effluent or waste, materials are often used to clean pumps/filters, additives are often added to lubricate the system to reduce wear and tear. Is brine not waste? Is this activity not triggered?	23/07/07	M. Duckitt	Listed activity 1(f) in GN 387 is “ <i>the construction of facilities or infrastructure, including associated structures or infrastructure, for the recycling, re-use, handling, temporary storage or treatment of general waste with a throughput capacity of 50 tons or more daily average measured over a period of 30 days</i> ”. No general waste exceeding 50 tons (daily average) will go through the reverse osmosis process.
	Referring to Listed Activity 1(n) in GN 387, we will require full technical specs of such a plant to be subjected to peer/engineering & scientific scrutiny to determine if water will be transferred between catchments or impoundments.	23/07/07	M. Duckitt	Listed Activity 1(n) is “ <i>the construction of facilities or infrastructure, including associated structures or infrastructure, for the transfer of 20 000 cubic metres or more water between water catchments or impoundments per day</i> ”. No water will be transferred between water catchments or impoundments. Water will be abstracted from the sea, for use at the Iron Ore Handling Facility after passing through the RO plant. It is anticipated that the volume of sea water to be abstracted will equal 8000m ³ per day.
	We are not satisfied that Listed Activity 9 in GN 387 is not triggered. Beaches are not water sources/fountains/wetlands. No authority will allow private enterprise to effect such.	23/07/07	M. Duckitt	Listed Activity 9 is “ <i>the construction or earth moving activities in the sea or within 100 metres of the sea, excluding an activity listed in item 2 of GN R386 but including construction or earth moving activities in respect of (a) facilities associated with the arrival and departure of vessels and the handling of cargo; (b) piers; (c) inter- and sub-tidal structures for entrapment of sand; (d) breakwater structures; (e) rock revetments and other stabilising structures; (f) coastal marinas; (g) coastal harbours; (h) structures for draining parts of the sea; (i) tunnels; or (j) underwater channels</i> ”. Item 2 of Government Notice No. R386 of 2006 is triggered in terms of construction or earthmoving activities in the sea or within 100 metres inland of the high water mark of the sea. This activity is therefore not applicable as it excludes activities identified within GR 386. No additional activities are triggered in R387.
	<u>The fragmentation of EIA processes fail to project the full / final outcome and cannot therefore be evaluated in an adequate context.</u>	<u>28/03/08</u>	<u>M. Duckitt</u>	<u>The Basic Assessment for the RO plant is being undertaken separately to the EIA for the proposed Phase 2 expansions to the iron ore terminal, as the water to be produced by the RO plant is required as soon as possible to assist with dust mitigation of the existing activities on site. The Basic Assessment has discussed the cumulative impacts (refer to Section 9.1.)</u>
	<u>Duty of care regarding the receiving environment has not been appropriately exercised, and the precautionary principle has been ignored.</u>	<u>28/03/08</u>	<u>M. Duckitt</u>	<u>The environmental process which is currently under way provides an assessment of the impact the proposed RO Plant will have on the receiving environment. All specialist studies adopted a conservative approach in assessing impacts. In particular, the Specialist Marine Impact Assessment has taken a very conservative approach (exercising the precautionary principle) in assessing the impact the RO Plant will have on the marine environment.</u>

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	<u>The Terms of Reference (ToR) as given to the specialists was not subject to public scrutiny / input / comment and this falls short of what is expected / required / acceptable.</u>	28/03/08	M. Duckitt	<u>PDNA/SRKJV followed the prescribed BA process. The ToR for all the specialist studies have been included in their reports and were sent out for public review with the Draft BA Report.</u>
	<u>Construction within the coastal zone by law requires an EMP, and an EMP thus does not constitute a mitigation measure.</u>	01/04/08	J. Kotze (Langebaan Ratepayers Association)	<u>Certain activities within 100m of the high water mark require an environmental assessment, but the requirement of an EMP is only required for Full Environmental Assessments. Should the RO Plant be authorised Transnet will have a construction EMP and operational phase working procedures which will operationalise mitigation and monitor compliance of the activity with the authorisation.</u>
	<u>The general fragmentation of the EIA processes is not supported (telephonic comment).</u>	25/04/08	Z. Jumat (DEA&DP)	<u>This concern is noted. The immediate need for water at the Iron Ore Handling Facility is the main reason for the RO Plant assessment being done separately to the assessment of the Port upgrade. In addition, the water will be required irrespective of whether or not the proposed Phase 2 upgrades of the Port are approved.</u>
	<u>There is no holistic view being taken in the area regarding environmental impacts (telephonic comment).</u>	25/04/08	Z. Jumat (DEA&DP)	<u>This concern is noted. The BA Report does include a discussion on the cumulative impacts of the proposed RO Plant which provides a more holistic view regarding the environmental impacts in the area (refer to Section 11 of the BA Report Form and Section 9 of the BA Report).</u>
	<u>There is concern regarding the decisions being made by the national authorities especially with regards to the comments received from the provincial authorities (telephonic comment).</u>	25/04/08	Z. Jumat (DEA&DP)	<u>This concern is noted. It is however outside the control of the Environmental Assessment Practitioners. All comments received, including those submitted by the provincial authorities, have been included in the Basic Assessment Report, for consideration by national authorities, DEAT.</u>
Alternatives	In its long term plan Portnet indicated the claiming of land to build jetties in the region of site 1 and 2.	18/06/07	J.C. Carstens	It is important to consider the Port Master Plan in its broader context. It is a plan that reflects potential demand trends for various commodity types at the time the plan was compiled. The Port Master Plan of 2005 (medium and long term plans) has been reviewed in the location of the RO Plant building and associated infrastructure. The location of the RO Plant building can be accommodated in all three proposed locations.

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	Site 1 is better suited because the wave action and the size of the Big bay will minimise the effect of the higher salt concentration.	18/06/07	J.C. Carstens	This is noted. Although the wave action at this site will help to disperse the brine quicker there are a number of other impacts which have been identified at this site, and it is therefore not the preferred alternative. The impacts of discharge of brine from each of the three sites have been modelled in the Marine Impact Assessment (Appendix G of the Basic Assessment (BA) report), and have been considered in identification of the preferred alternative.
	Site 1 will have a problem of a shifting beach. Pipes running from and into the water can be affected by strong water/storms, as the beach gets washed away / build up again over time.	18/06/07	J.C. Carstens	This is has been noted These factors have been taken into consideration in the identification of the preferred development/site alternative. Due to its position within a shifting dune system, site 1 is not the preferred alternative.
	Site 1 will also be less visible from either Saldanha or Langebaan.	18/06/07	J.C. Carstens	This is noted. The proposed RO Plant will not have a significant visual impact as it is fairly small (60mx40m) and will be in a building (approximately 5-10m high). This is fairly small in comparison to the existing buildings, stockpiles, infrastructure and equipment at the iron ore terminal.
	Site 1 will also be less affected by a possible oil spill than Site 3 or 2.	18/06/07	J.C. Carstens	This is noted. However, potential oil spills will be taken into consideration by the engineering team when designing the intake infrastructure. The RO Plant is likely to be more susceptible to oil spills in the case where direct pipeline intake is used, however intake via beachwell or borehole should reduce the impact of potential oil spills on the RO Plant, as it allows for a certain level of natural filtration.
	Site 3 has an immediate deeper channel to pump water from, or to discharge brine into. The small beach at Site 3 also shifts with strong water. This seems to be the safest place, but with a longer distance from the iron ore handling facility.	18/06/07	J.C. Carstens	This is noted.
	Concern over Site 1 from an environmental perspective. Perhaps Sites 2 and 3 are better?	05/07/07	W. Kloppers	The Basic Assessment Report has comparatively assessed the environmental suitability of each of the three sites. Site 3 is the preferred alternative because of the fewer environmental impacts.
	The beach site definitely needs specialist studies to be completed.	06/07/07	W. Titus (Saldanha Bay Municipality)	This is noted. Specialist studies have been completed for all the sites and include: marine study, vegetation study, heritage study, geohydrological (groundwater) study.

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	<p><i>The three proposed sites are all located within a closed marine system. Discharge of brine into an enclosed system is considered especially dangerous. Alternative sites preferably outside the bay system should be included as possible locations.</i></p>	<p>02/07/07 16/07/07 06/07/07 28/07/07 (PH 1B EMC) <u>01/04/08</u> <u>25/04/08</u></p>	<p>T. Williams C. van Wyk P. Fabricius J. Walsh <u>J. Kotze</u> <u>Z. Jumat</u> <u>(DEA&DP)</u> <u>(telephonic</u> <u>comment)</u></p>	<p>Saldanha Bay is a natural deep water harbour with a large body of wave sheltered water. It is not an enclosed bay, but rather a “less-flushed” system which is affected by tides. Water circulation within Saldanha largely follows wind patterns.</p> <p>The marine specialist has assessed the impact of the brine discharge on the marine ecosystem at a number of site alternatives within the bay and has concluded that the preferred alternative has an insignificant impact (assuming mitigation measures are effectively implemented) on the marine environment (Site 3 with a discharge at Caisson 3, on the quay.)</p> <p>The option of discharging the brine outside the bay has been investigated, but there are many constraints including being very costly and time consuming to acquire land servitudes and associated permissions and approvals. The need for additional water for dust suppression is immediate. In addition the operational costs and energy requirements for pumping intake water and brine discharge over such large distances will also be very high making this option unfeasible.</p>
	<p>Have other options of dust suppression been investigated? What about building big warehouses to store the iron-ore in? What is the financial implication of alternative dust suppression methods compared to the RO plant? Iron-ore silos are recommended for the stockpiling of iron ore prior to export loading, instead of the current open stockpiling. Thus being a closed system, iron-ore dust pollution could almost be 100% eliminated in the stockpiling and loading process.</p>	<p>16/07/07</p>	<p>Z. Jumat (Coastal Management) / C. van der Berg (Langebaan Ratepayers and Residents Association) / J. Kotze</p>	<p>Other methods of dust suppression, (thus reducing the amount of water required) are currently in place and include:</p> <ul style="list-style-type: none"> • Conveyor covers to shield ore dust from wind; • Road surfacing to allow for sweeping and cleaning to reduce dust agitation by vehicles; • Adding dust suppressing surfactant at tipplers; and • Vacuum and sweeper trucks to sweep and vacuum dust from roads and from difficult areas. <p>Dust monitors have also been installed to monitor dust exiting e.g. tippler buildings.</p> <p>In addition to the above, Transnet have also considered the options of enclosing the entire stockpile area in a warehouse as well as using silos to store the iron ore. Enclosing the whole stockpile area in a building is very capital intensive and would not reduce the need to further suppress dust using water, which would be a requirement in terms of the Occupational Health and Safety Act. In addition, the size of the building required is likely to have a significant visual impact. Due to the nature of the iron ore, using silos to store the iron ore is not practical as the silos are likely to become blocked. In addition, the size of the silos required would make this option impractical and unfeasible. It should be noted that neither of these options, which would aim to enclose the stockpile areas, would allow for complete elimination of dust, as the transfer points on the conveyors were found to be the largest contributors to dust.</p>

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	<p>(In the BID) The feasibility study done by Transnet indicated that desalinated sea water is the most appropriate source of water. It is not clear what the environmental costs are associated with the alternative water sources. In light of the fact that no further consideration will be given to the alternative water sources, it would seem that the information to be provided to the public “about feasible conceptual development alternatives” will be limited and probably lack important relevant information.</p>	27/08/07	Shaun Schneier (MCM)	<p>The Basic Assessment process followed is a transparent process and a discussion on the alternative options considered, but excluded from the EIA process, is provided in Section 7 of the Main BA Report.</p> <p><u>The following potential water sources were considered (but not limited to) as options for dust suppression prior to starting the Basic Assessment Process:</u></p> <p><u>Municipal Potable Water - Additional potable water from the municipality is limited due to the scarcity of water in the area and, like the present allocation, is susceptible to restrictions during time of drought. Taking into account the sustainability and reliance on the use of municipal supplies, this alternative is thus not viable particularly in view of the large present and future water requirements.</u></p> <p><u>Reclaimed Sewage (Treated Effluent) - Although treated sewage effluent is available as an alternative to the use of potable water, the volume of treated effluent current available has already been allocated for other uses (pers. Comm. Mr. Pierre Maritz, Saldanha Municipality), with Mittal Steel being the primary user.</u></p> <p><u>Groundwater - Groundwater of a good quality is a limited resource in the area. There is insufficient groundwater resources in the vicinity of the Iron Ore Handling Facility, and thus additional water supply would still need to be sourced.</u></p> <p><u>The use of desalinated sea water for dust suppression will improve the self-sustainability of the Iron Ore Handling Facility and will reduce the demand and reliance on the municipal supplies. In addition, desalinated sea water supply has the benefit of not being affected by drought conditions, as is currently the case with the municipal water supply. Therefore, potable water supplied as a result of the RO Plant will be a more continuous supply and will enable dust suppression activities to continue at the Iron Ore Handling Facility, even during times of drought.</u></p>
	<p>Of the three possible sites identified, which has the most dispersive conditions?</p>	14/08/07	Y. Peterson (MCM)	<p>Site 3, with discharge at caisson 3 is the alternative with the most dispersive conditions as there are strong tidal flows here and there is the potential mitigation factor of propeller wash to further disperse the brine (refer to the Marine Impact Assessment in Appendix G). This is the preferred alternative.</p>

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	<p><u>With regards to the alternative site location at the breakwater, it is not clear why the pipeline would need to go into the anchorage area at all. Ships are not allowed to anchor in the channel or turning circles. Directional drilling and pipe jacking can be done across the channel with minimal disruption of traffic. Durban Harbour carries much more traffic than Saldanha and a sand bypass system goes under the channel.</u></p>	<p><u>20/03/08</u></p>	<p><u>L. Uys</u></p>	<p><u>The alternative of piping the brine discharge to the breakwater has been further investigated by Transnet and a discussion on this alternative has been included in Section 7.4.4 of the Final BA Report. Although there should not be ships anchoring in this area, according to Transnet geotechnical surveys done on the sea floor of the bay there is evidence of anchor drag marks in the area where the pipeline would be laid (directly between the jetty and the breakwater). Directional drilling has been investigated and the estimated cost is R30 Million (only for the drilling). This would be in addition to current estimates for the preferred alternative.</u></p> <p><u>The length of the pipe to the breakwater would be 1.6 km. The pipe would weigh approximately 80 tons and this job is beyond the capability of drilling rigs currently in South Africa. A large enough drilling rig would need to be imported in order to do this job.</u></p> <p><u>Horizontal directional drilling is feasible but is expensive and is a high risk operation. Further information regarding these risks is contained within the Basic Assessment Report (Section 7.4.4).</u></p>
	<p><u>The investigated and proposed option for disposal or discharge of the brine effluent is limited to Saldanha Bay itself and therefore cannot fairly be evaluated against options of discharge to open sea. The proposal or recommendation to discharge to open sea has been made to NPA in the past, but the idea was ignored or excluded from investigations due to cost factors of building such a discharge line.</u></p>	<p><u>19/03/08</u></p>	<p><u>C. van Wyk</u></p>	<p><u>It is also important that the additional costs and significant additional project related risks associated with the discharging of brine outside of Saldanha Bay be considered and balanced in conjunction with the outcomes of the marine and other specialist studies which assigns impact ratings to the potential environmental impacts associated with discharging brine within Saldanha Bay. Options investigated to discharge brine outside of the bay have significant additional project related risks and would increase the cost per unit volume of water produced which would make the RO Plant financially unviable. Alternative options of discharge outside the Bay have been further investigated by Transnet, and these have been included in the Final BA Report.</u></p>
	<p><u>Our sub-directorate MCM agrees that Site 3 serves as the most desirable option for the RO Plant. It would be essential that the developer to implement the mitigation measures listed in the Draft BA Report.</u></p>	<p><u>26/03/08</u></p>	<p><u>Y. Peterson (MCM)</u></p>	<p><u>This is supported by the findings of the BA.</u></p>

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	<p><u>Based on the alternatives presented in the report, DEA&DP is of the opinion that the most reasonable option is 3b with the amendment that the discharge point is moved to discharge into big bay at caisson 3 or further out to sea. The feasibility of this option must be included in the final BA Report.</u></p>	<p><u>31/03/08</u></p>	<p><u>A. Gabriel (DEA&DP)</u></p>	<p><u>The BA has shown that that the current preferred alternative 3d is preferable to the amended alternative suggested by DEA&DP. There are many reasons the alternative of intake via boreholes is more preferred than intake via a pipeline (refer to the Marine Impact Assessment). For a pipeline intake at Site 3 a deep water structure would need to be constructed, stabilised within a concrete intake structure placed on the seabed. Intake via a pipeline has a greater chance of entraining sediments compared to intake via boreholes. Boreholes have the advantage of pre-filtering the sea water, as well as reducing the necessity for the use of pre-treatment substances, thus reducing operating costs as well as likely discharges of concern.</u></p>
	<p><u>In our opinion, to use water to suppress dust is not the only method that Transnet can use.</u></p>	<p><u>01/04/08</u> <u>25/04/08</u></p>	<p><u>J. Kotze (Langebaan Ratepayers Association)</u> <u>Z. Jumat (DEA&DP) (telephonic comment)</u></p>	<p><u>The possibility of housing the stockpiles of iron ore in warehouses and silo's was investigated. A discussion on the alternative options considered, including not using water to suppress dust, is provided in Section 7 of the Main BA Report. Other methods of dust suppression, (thus reducing the amount of water required) are currently in place and include:</u></p> <ul style="list-style-type: none"> • <u>Conveyor covers to shield ore dust from wind;</u> • <u>Road surfacing to allow for sweeping and cleaning to reduce dust agitation by vehicles;</u> • <u>Adding dust suppressing surfactant at tipplers; and</u> • <u>Vacuum and sweeper trucks to sweep and vacuum dust from roads and from difficult areas.</u> <p><u>Dust monitors have also been installed to monitor dust exiting e.g. tippler buildings.</u></p>

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	<p><u>The option of enclosing the iron-ore in sheds or silos is mooted. The visual aspects of such structures can be reduced by "semi-sinking" the stockpiles. We believe that such an option, although capital intensive, would be a more viable and cost-effective option in the long-term if ecological costs are considered.</u></p>	<p><u>01/04/08</u></p>	<p><u>J. Kotze (Langebaan Ratepayers Association)</u></p>	<p><u>The height of the iron ore stockpiles are 16 metres. The extent of the three new stock piles as envisaged under Phase 2 is approximately 700 metres in length and 405 metres in width. The datum level of the base of the stock piles above sea level is 2 metres. It is undesirable to sink the stock yards to below sea level because of sea water ingress to the stock piles as well as the control of rain water in what would of necessity have to be a water tight and sealed excavation if the excavation extends below sea level. The construction of a stable structure 700 metres in length and 405 metres in width on a placed and compacted dredge fill material would be a practical impossibility especially since the fill material is prone to long term settlement even with extensive compaction. In addition the stock yard civils would necessitate the importation of an additional 1 million m3 of calcrete for the foundations as well as create a disposal problem for dredge material for the equivalent volume of the selected backfill material plus the volume of the stockpile sunk below ground level. This additional dredge material to be disposed of is estimated to be approximately 1.5 million M3. If the stock yards are sunk the 2 metres to sea level the height of the stock pile above ground level remains at 14 metres. The track slabs for the stacker reclaimers are above ground level since it is not desirable to have mechanical components of major production units such as stacker reclaimers in what potentially could be flood risk areas. If the stock piles are sunk into the ground and the track slabs are at ground level a redesign of the stacker reclaimers would be required in that the stacker reclaimers would need to reclaim the additional 2 metres below grade. This would be a non standard machine relative to the existing stacker reclaimers already in service at the iron ore terminal.</u></p>
<p>RO Technology</p>	<p>Since the technology is relatively new there have been no adequate assessments of the longer-term environmental impacts.</p>	<p>02/07/07</p>	<p>T. Williams</p>	<p>Reverse Osmosis technology is not a relatively new technology and many similar plants have been successfully constructed elsewhere. Nevertheless, the Marine Impact Assessment (Appendix G, to the Basic Assessment (BA) report) makes recommendations for monitoring programmes to be implemented once the RO plant is operational, and this monitoring programme is strongly recommended in the BA Report as being part of a condition of authorisation by DEAT. Monitoring includes the study of the impact of the brine on potentially affected communities, particularly the subtidal benthic communities, monitoring of the RO plant effluent after commissioning for heavy metals, toxicity testing of the RO Plant effluent at discharge point for a full range of operational scenarios (i.e. shock-dosing, etc) and monitoring (or audit of process chemical once RO Plant is commissioned) to ensure that tainting substances are absent from the RO Plant effluent.</p>
	<p><u>The general approach of using RO instead of groundwater or surface water is very strongly supported.</u></p>	<p><u>12/03/08</u></p>	<p><u>P. Seward (DWAF)</u></p>	<p><u>Your support is noted.</u></p>

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	<u>RO is a supported technology, but needs also be assessed in a regional context rather than on an ad hoc basis only.</u>	<u>28/03/08</u>	<u>M. Duckitt</u>	<p><u>This is noted. Discussions with the West Coast District Municipality and the Saldanha Bay Municipality have indicated that the municipalities' planning is not advanced enough to fit in with Transnet's immediate need for water and Transnet have been advised to keep the process separate for now. In addition, the water produced by the RO Plant will be considered as "process water" and it will therefore be problematic, from a legal perspective, to link up the RO produced water with the municipal supply.</u></p> <p><u>It should be noted that the requirement for the standard of potable water is to safeguard the quality of the exported iron ore and avoid contamination of the product by industrial quality water. The primary aim is not to produce drinking water.</u></p>
Noise	An assessment of noise pollution, due to the high pressure pumps, is needed.	02/07/07	T. Williams	<p>The possible noise impacts associated with the RO Plant are mainly within the RO building, and can be mitigated. The noise stipulations for all the equipment will be 85 decibels measured 1m from the source as per the Occupational Safety and Health Act. Motors will be mounted on elevated plinths and standard sound proofing materials will be used within the RO Plant building (if mitigation of noise is required to meet the acceptable standard).</p> <p>According to Mackenzie Hoy and Associates, Consulting Acoustics Engineers (refer to Appendix H to the BA report) the actual reverse osmosis plant makes very little noise, however, the pressurisation pumps and, most importantly the brine discharge pumps often operate at very high pressure heads and create noise in the immediate plant area and this noise can be carried beyond the plant. Mitigation measures, if required (i.e. should 85 decibels be exceeded) can include brick walls, sound proofing material and acoustic louvres.</p>
Energy	Increased use of energy is an issue that needs to be investigated.	02/07/07 27/08/07 31/05/07 (Ph 1B EMC)	T. Williams / S. Schneier / C. van der Berg / M. Duckitt	<p>According to Mackenzie Hoy and Associates, Consulting Acoustics Engineers, an energy consumption of 5000kWh equates to an average power of 200kW or 235kVa. Approximately, this demand is 1.8% of the existing maximum demand of the terminal and thus it is comparatively insignificant. The benefit is that demand for potable water from existing sources will not increase.</p> <p>An energy recovery turbine is to be provided which recovers the residual energy in the brine stream. This energy will be used to boost the feed pressure to the RO membranes (for further details on the energy recovery module refer to Point 4 in Section D of the BA Report Form).</p>

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Other	<u><i>There is no specific reference to dust control of the stockpile from which the Saldanha Steel Works receives its supply of iron ore. The red dust plume from the entrance of the Port can be seen to reach Vredenburg.</i></u>	<u>16/03/08</u>	<u><i>K. Harrison (West Coast Bird Club)</i></u>	<u><i>The issue of dust control / mitigation has not been assessed in this study as the proposed RO Plant will not generate any dust, and thus dust control is thus outside the scope of this Basic Assessment, which focussed on the assessment of impacts resulting from the proposed construction and operation of the RO Plant. The proposed RO Plant will produce water of a suitable quality to use for dust suppression at the port, and thus this impact will be reduced if the proposed RO Plant is authorised.</i></u> <u><i>Suppression of dust as a result of the stockpile for Saldanha Steel Works is managed by Saldanha Steel. There are no water sprayers in place but rather a dust extraction system. The system extracts the dust generated when the ore falls through a chamber onto the conveyor - the extraction point is enclosed below ground level.</i></u>
	<u><i>A waste water management plan must be implemented detailing the management of all waste water emanating from the facility. The plan must adopt a "cradle to grave" approach such that the fate of all waste water is accurately described. The fate of waste water resulting from the cleaning of the facility must also be stipulated in this plan.</i></u>	<u>31/03/08</u>	<u><i>A. Gabriel (DEA&DP)</i></u>	<u><i>An Integrated Water and Waste Management Plan (IWWMP) for the entire facility is being produced as part of the Phase 2 EIA, and the management of all water and waste from the facility (including the RO Plant) will be included in this document. Details of the management of the waste water which will be discharged via the municipal sewer have been provided in the BA Report. The BA Report has recommended that a Construction Phase Environmental Management Plan and additional working procedures (as part of the Port's Environmental Management System [EMS]) for the operational phase of the project be implemented and that they include (among others) the management of waste on site.</i></u>
	<u><i>The facility must include "back-up" infrastructure and machinery in the event of mechanical breakdown. The "plan B" option must be clearly described in the final Basic Assessment Report.</i></u>	<u>31/03/08</u>	<u><i>A. Gabriel (DEA&DP)</i></u>	<u><i>In the event of any mechanical breakdown, or a power cut, the plant will automatically cease to operate until such time that the mechanical problems have been rectified. The municipal water allocation for the port will be kept and in an emergency situation Transnet will be able to use municipal water instead of RO water for short periods of time.</i></u> <u><i>There is a potable storage reservoir which has a 48 hour retention time and it is not anticipated that power supply will be cut for longer than this. No back up power source will thus be required.</i></u>

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	<p><u>It is totally undesirable that a RO Plant be constructed with its many negative impacts and even greater uncertainty (in terms of potential impacts) merely to limit dust that is merely an aesthetic issue. The reduction of iron-ore dust by wetting must be viewed as a short-term solution and longer term solutions of closed storage and/or silo's is more desirable.</u></p>	<p><u>01/04/08</u></p>	<p><u>J. Kotze (Langebaan Ratepayers Association)</u></p>	<p><u>Transnet have obtained authorisation for the handling and export of up to 45 million tons per annum (mtpa) of iron ore at the iron ore handling facility, and studies are currently being undertaken for proposed upgrades to the facility which would allow for an increase to 93 mtpa. In terms of the Record of Decision (RoD) for the Phase 1b expansion of the facility (which authorised the upgrade from 38 to 45 mtpa) all ore stockpiles (including future/new stockpiles) must be sprayed with water in order to suppress dust, which many stakeholder don't regard as only an aesthetic issue. Additionally, transfer points in the bulk handling process of the iron ore also require water to be sprayed to reduce dust generation. Transnet are therefore legally required and fully committed to implementing dust mitigation measures at the Port of Saldanha. The RO plant will assist to a great extent in facilitating this requirement. Section 7.4 of the Final BA Report discusses various alternatives that have been considered, including alternative methods of dust suppression. Enclosing the iron ore in silo's / warehouses was not considered a feasible alternative due to the size of the structure which would be required to enclose the entire area, and associated costs and visual impacts.</u></p>
	<p><u>We request that the RO Plant not be built and that more ecologically acceptable options be investigated.</u></p>	<p><u>01/04/08</u></p>	<p><u>J. Kotze (Langebaan Ratepayers Association)</u></p>	<p><u>A number of alternatives for dust suppression have been identified and investigated by Transnet, and all these alternatives, as well as the reasons for not including them in the environmental assessment, have been included in Section 7 of the Final BA Report. A number of specialist studies have been undertaken and none of these studies have concluded that there will be an unacceptable ecological impact. Ultimately DEAT will make a decision. PDNA/SRK JV believes that sufficient information is available for DEAT to take a decision. PDNA/SRK JV believes that, with the implementation of the recommended mitigation measures, the proposed RO Plant (3d – preferred alternative) would be environmentally acceptable.</u></p>
	<p><u>The cumulative impact on the receiving environment (natural/biodiversity and human/economic) has not been assessed.</u></p>	<p><u>28/03/08</u></p>	<p><u>M. Duckitt</u></p>	<p><u>An assessment of the cumulative impact has been included in the BA Report (Section 9) and the BA Report Form (Section 11. Cumulative Impacts). Although the impact of the proposed RO Plant will be relatively small in terms of the current activities at the Iron Ore Handling Facility as well as the proposed upgrades of the port, the proposed RO Plant would contribute to a number of cumulative impacts. In addition all three RO modules have been included in all assessments and all specialists have assessed the cumulative impact of the RO Plant.</u></p>

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	<p><i><u>NPA/Kumba needs to be seen to be more pertinently contributing indirectly to the greater regional infrastructure and social whole, rather than only into in house/own for engineering/profit motives by linking into regional efforts rather than standing out of the water.</u></i></p>	<p><u>28/03/08</u></p>	<p><u>M. Duckitt</u></p>	<p><i><u>Transnet's corporate social responsibility programme for the Saldanha area has been running for many years, but is being revisited in view of the latest expansion plans. Further communication with the community about this programme, will be coordinated through the Iron Ore Corridor team.</u></i></p> <p><i><u>As far as Transnet is aware, Kumba focuses it's corporate social responsibility programme more in the Northern Cape (Sishen) area. Transnet is currently in discussion with Kumba about the concerns from the Saldanha community that Kumba is not seen to be visible there.</u></i></p>