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Dyer Island Conservation Trust

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**Attention: Katja Vinding Petersen, Michelle Wcisel, Brenda Walters, Oliver Jewell, Alison Towner and Trustees**

Dear Dyer Island Conservation Trust Members

**ESKOM ENVIRONMENTAL IMPACT ASSESSMENT (EIA: 12/12/20/944) FOR A PROPOSED NUCLEAR POWER STATION AND ASSOCIATED INFRASTRUCTURE: COMMENTS ON THE FINAL ENVIRONMENTAL IMPACT ASSESSMENT REPORT**

Arcus GIBB acknowledges receipt of the submission received from your organisation discussing the above report. We thank you for your valuable comments and your participation in the Eskom Nuclear Power Station (NPS) Environmental Impact Assessment (EIA) process. Your questions and comments concerning the Nuclear-1 have been noted.

Responses to your submission are provided separately (please refer to Annexure A).

Should you have any queries with respect to the above please do not hesitate to contact Arcus GIBB.

Yours faithfully  
For Arcus GIBB (Pty) Ltd



Jaana-Maria Ball  
Nuclear-1 EIA Manager

## **ANNEXURE A**

### **Response: General Comments:**

The comments made by the DICT are acknowledged and they are thanked for their constructive approach. Where possible, comments have been incorporated into the next draft of the marine ecology specialist report. Detailed replies to individual comments are given below.

### **Response: The Marine Environment Surrounding Bantamsklip (Section 3, page 7)**

- It is readily agreed that the wording of the opening paragraph in the description of the environment around Bantamsklip be re-written to reflect the conservation status of species which have been mentioned later in the report, but were mistakenly omitted in this paragraph.
- The presence of the Indo-Pacific Humpback Dolphin is noted and acknowledged as an omission in the current draft of the marine ecology report. This will be corrected in the current draft.
- The presence of breeding Leach's Storm Petrel on Dyer Island will also be added to the report. Please note that this species is not endangered as stated in the submission by the DICT but is listed within the category 'Least concern' by the IUCN (i.e. the category to which abundant and widespread taxa are allocated)
- A more detailed description of Dyer Island will be added to the report to reflect the valuable information provided by the DICT.

### **Response: General Potential Impacts of the NPS on the Marine Environment (Section 4, page 11)**

#### **Access to Information and Scientific Work in relation to the NPS (Section 4.1, page 11)**

Your comments are noted regarding the naming of documents. This will be reviewed and will be revised in terms of the revised Draft EIR which will be made available for public review and comment.

- The current application for environmental authorisation relates to the impact on the environment of the construction, operation and decommissioning a Nuclear Power Station with the generation capacity of approximately 4000MW.
- The Koeberg work is the only equivalent South African study and is ongoing, representing a massive body of work over more than 20 years. It would be foolish not to consider its findings. Of course we realize that Bantamsklip differs from Duynefontein and take this into account. The Koeberg experience still provides the only local model of impact and remains a valuable tool in assessing potential impacts associated with the proposed development.
- We agree that predictions relating to climate change are very difficult to make. This is widely acknowledged in the scientific literature. Nonetheless, this uncertain subject has to be taken into account in the report. This has been done using the most up-to-date published work. As noted in the marine report, the declines in coastal temps along this section of the South African coast have been contrary to global predictions (note global predictions were used in the OSS report).
- The idea that marine species at the Bantamsklip site would be unable to survive stable and warmer water temperatures, thus resulting in a 'dead zone' is unfounded. Firstly, there is no evidence that the species at this site require temperature fluctuations for their survival. In fact the species found at this site are not restricted to the area and occur extensively along the south coast (with the noted exception of abalone), occurring in warmer waters which experience less temperature fluctuations than the site under question. Secondly, the plume will be spatially variable with a very small area experiencing temperatures elevated above 1°C

near the seabed with an offshore tunnel release system (see modelling report, which considers the warm water plume by Prestedge Retief Dresner Wijnberg (Prestedge et al.) Nuclear Sites Safety Reports. Numerical modelling of coastal processes).

- It is the understanding of the specialists that all recommendations made by the specialists will be written into the record of decision made by the authorities, and that Eskom would be legally bound to implement these, should the development take place.
- Proposed monitoring programmes are detailed in Section 5.2.2 in the marine ecology report.
- There are regrettably no technologies available which would enable mitigation of the impacts associated with the construction of the tunnels and intake pipes.
- The DICT are referred to the section of the main report dealing with the assessment criteria for definitions regarding the duration of impacts (Chapter 7 of the Draft EIR)
- The reason that the consequence rating for the disposal of spoil is downgraded from high to medium should spoil be placed off-shore, is that the intensity of the impacts is reduced as this mitigation action protects the very vulnerable abalone stock. Note that the specialists still consider this an important impact, as is reflected by the high significance rating given.
- The reference to creation of new habitat was mistakenly left in the report from previous drafts, which considered other design options for the proposed power plant. This will be removed.
- The disposal of spoil is fully discussed in the appropriate section dealing with the description of impacts (Section 3 of the marine ecology report). It is also highlighted in the Executive Summary, the Environmental Assessment (Section 4), the Mitigation Measures (Section 5) and the Conclusion and Recommendations (Section 6).

**Response: Design of the Expected Nuclear Power Station and Potential Impacts Section 5, page 15**

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Final design of the cooling water pipe lines and methods used during construction (section 5.1.1, page 15).

Your comment is noted. The exact location and detailed design of the intake and outfall is not known at this stage. However, in the EIA corridor maps per site, the possible areas are indicated for this purpose.

Intake of marine life with the cooling water (section 5.1.2, page 17)

- It is acknowledged that the intake of marine life by other power stations may have a significant impact on organisms in the surrounding environment. However, the design details provided to the marine ecology specialist and included in the marine report (i.e. an intake rate of 1 m/s) will not be strong enough to entrain large organisms, such as penguins, fish and marine mammals. In addition, filters which have a grid size small enough to exclude fish from the intake pipes will most certainly not allow such larger organisms to pass.

Increased background noise (section 5.1.3, page 18)

- As stated in the marine report marine mammals are sensitive to human activity and noise, they may thus avoid the area surrounding the development during the construction phase, particularly during tunnelling for the intake pipe and the building of the dam. However, none of the species that occur along this section of coast (including fish) are reliant on the immediate construction area and all are likely to return, as they did following the construction of the original KNPS.

- Although no long term impacts on marine mammals are expected to occur, a monitoring programme will be added to the monitoring required should Bantamsklip be the chosen site for the development.

Explosions during the construction phase (section 5.1.4, page 20)

- It is the understanding of the marine ecology specialists that no blasting will occur in the marine environment during construction.

Spoil (section 5.1.5, page 20)

- It was misleading that the word 'potential' was used when referring to the disposal of spoil (other than in the sense that the development itself is 'potential' at this site). This will be corrected in the final report.
- The exact positions of the disposal sites are given in the oceanographic modelling report. It is stated in the Assumptions and Limitations (section 1.2.1) of the marine ecology report that the assessment of the impacts associated with the disposal of spoil is based on spoil being placed at the exact positions modelled by Prestedge et al. (Nuclear-1 EIA. Marine disposal of sediment.). The constraints placed on the models were conservative and the models were specifically designed to look at the issues related to the placement of the spoil.
- There is no reason to expect that invasive species will preferentially inhabit the area covered by spoil. Benthic communities from surrounding areas will be the source of individuals and gametes which will inhabit the area under question. It is acknowledged that communities supported here are expected to be different from original communities (at least in the short term during the successional process). The monitoring of benthic communities (see section 5.2.2) is designed to track changes in community composition and recovery.
- It is the understanding of the marine ecology specialists that no more than 10.07 million m<sup>3</sup> will be disposed of as spoil. This was the figure used in the oceanographic modelling report and the figure upon which the ecological impacts were assessed. It is stated in the Assumptions and Limitations (section 1.2.1) of marine ecology report that should this volume be exceeded that new oceanographic models would be needed and the assessment of associated impacts would be null and void. It is clearly stated in the marine ecology report that the area covered by the disposal of spoil will be '1.5 or 3 km<sup>2</sup> depending on whether only half or the full volume of sediment is disposed of'.
- Please note the restrictions placed on the disposal of spoil have been instituted specifically to protect the abalone stock in this vital area.

Increased water temperature (section 5.1.6, page 22)

- The oceanographic report and the marine ecology report do in fact agree that water temperatures at the outlet pipes will be 12°C above ambient water temperatures. The marine ecology report further elaborates saying that although at the point of release the increase will be 12°C, an area of roughly 0.75 km<sup>2</sup> will experience mean rise in sea surface temperature of 1°C. This information was gained from the oceanographic modelling report and is referenced in the report.
- The along-shore placement of the cooling water pipes are not important from an ecological perspective as the predictions made by the modelling report remain relevant. This will be clarified in the report.
- The marine ecology specialists feel that sufficient information is available to assess the impacts of the release of warm water on the marine environment. Despite the claims by the DICT that the modelling is 'over-simplified', stringent and conservative assumptions have been

put in place to gain the most reliable model possible (see Prestedge et al.) for details. While the DICT say that 'It is not possible to find sufficient information about how much energy that will be dumped into the water' from an ecological perspective what is important is by how much the water temperature will be raised by the energy taken up by the sea water. It is clearly stated that water will be released at 12°C above ambient sea temperatures. This figure has been used in the assessment of marine ecology impacts.

- A discussion on the affects of raised temperatures is given in Section 3 of the marine report and the cumulative impacts of temperature and chlorine are discussed in detail in Section 3.1.2. The chemicals associated with the desalination process are discussed in Section 3.1.4.
- It is important to remember that the extent of the outlet water plume will be spatially limited and that the plume will not permanently affect any specific area, but will move depending on the prevailing oceanographic conditions. As a result mobile organisms like fish, foraging penguins, seals and dolphins will be able to avoid the plume and will not be significantly affected.

#### Brine (section 5.1.7, page 23)

- The specialists feel that adequate attention has been paid to the impacts of desalinisation effluent. Especially considering that (1) potential negative affects will be temporally limited, occurring only during the construction phase (2) these potential impacts will be very spatially limited during this time as the brine is predicted to be diluted to 1 g/L above ambient salinity within 110 m from the point of release.
- The reference regarding the concentrations of chemicals in USA drinking water is dated 2002 in the marine ecology report.
- The marine ecology also states that desalination effluent will be released into the surf zone during the construction phase. This is clearly discussed in Section 3.1.4.
- Seasonal fluctuations have been taken into account in the modelling of the thermal plume and this has been carried forward into the assessments made in the marine ecology report.
- The reason that the co-release of brine and warm cooling water will prevent any impacts associated with the brine is not due to the issue of density (i.e. warm water raising the brine off the sea floor) but rather (as explained in Section 1.3.4) 'Although the brine is expected to have a salinity of 58 ppt (in comparison with seawater which has a salinity of 35 ppt) this effluent will account for less than 1% of the water released. As such the hypersaline brine will be diluted to undetectable levels within the outflow pipes prior to release.' Additionally please note that the South African Water Quality Guidelines for Coastal Marine Waters will be met during the construction phase.
- A monitoring programme considering toxicity in marine organisms during the construction phase is not considered a useful exercise. This is due to the fact that that toxicity levels for chemicals which might be co-released with the brine have not been determined in South Africa (or in many cases they have not been determined at all). Without this basic information monitoring would only be able to track levels of chemicals within chosen organisms and attempt to correlate this to changes in the density of these species (without showing causality). The large natural variability known to occur within sandy and rocky shore communities would further complicate interpretation of any such results. Considering the very limited area which is predicted to be affected by the brine and the temporary nature of the impact, the great expense and time commitment required to determine toxicity levels prior to monitoring does not appear to be justified.

#### Chlorine and other chemical effluent (section 5.1.8, page 25)

- The impacts of chlorine are discussed in detail in Section 3.1.2. The dosing level to be used (2mg/kg) will be lower than that used at Koeberg Nuclear Power Station. This, combined with the fact that chlorine is not detectable at the cooling water outlet of Koeberg Nuclear Power Station means that chlorine used to maintain the free flow of water on the cooling pipes is not expected to impact the marine environment.
- As required by the Department of Water Affairs and Forestry this water will meet the required standards as set out in the South African Water Quality Guidelines for Coastal Marine Waters at the point of release. As such no impact on the marine environment is anticipated.
- To the knowledge of marine ecology specialists the compounds listed by the DICT (i.e. Boric acid, Lithium hydroxide, Hydrazine: Ammonia, Morpholine, Ethanolamine, Trisodium phosphate, Detergents and Metals and suspended solids) will not be released into the sea. The only compounds to be released from cooling water pipes are warmed sea water, sewage (at levels meeting the South African Water Quality Guidelines for Coastal Marine Waters) and desalination effluent (undetectable at the point of release).

#### **Impacts on Tourism (Section 6, page 27)**

- The sentence referring to marine tourisms being centred around Gansbaai will be rephrased in the marine report.

#### **Shark Cage Diving and Whale Watching (Section 6.1, Page 27).**

- Your comment is noted. There are currently two licensed whale-watching and eight licensed white shark cage-diving operators conducting tours within the sphere of direct Nuclear Power Station influence. Shark-cage diving occurs mainly around Dyer Island while 80% of whale-watching trips are undertaken to the west of the trawler wreck in the Bantamsklip exclusion zone. Thus, the impact will principally be on whale-watching but, as the marine exclusion zone is expected to be only 1km in extent, this will be not directly affect more than 10% of current activities which would then have to move to the larger area. An even lesser impact is possible if Eskom is successful in applying (as it has indicated to the authors that it intends doing) for permission to allow access for whale-watching trips.
- Also, while that fact that sharks are visual predators and would be impacted by extensive turbidity introduced into the water column is not disputed, the extent of the sediment plume must be remembered. Prestedge showed that for the worst case scenario (Sediment disposal Alternative 4) suspended sediment concentrations above 80mg/l at the water surface will be restricted to less than 1 km<sup>2</sup> and will occur for no more than 2 days (note that the level of 80 mg/l has previously been identified as a threshold above which probable adverse ecological effects will occur). This turbidity remains well clear of Dyer Island. This demonstrates that turbidity will be spatially and temporally restricted, thus not impacting significantly on the sharks. This explanation will be added to the marine report for clarity.

#### **Visual Impacts (Section 6.2, Page 28)**

Your comments are noted. The Visual Specialist has proposed a number of mitigation measures in section 4 of the Visual Impact Assessment.

#### **Response: Potential Impacts on Marine Fauna (Section 7, page 30)**

##### Abalone (Section 7.1, page 30)

- As stated above the exact positions of the disposal sites are given in the oceanographic modelling report. It is stated in the Assumptions and Limitations (section 1.2.1) of the marine ecology report that the assessment of the impacts associated with the disposal of spoil is based on spoil being placed at the exact positions modelled by Prestedge et al. Should these positions be changed, new modelling and a new assessment will be required.
- We agree with the concerns raised by the DICT regarding the severity of the potential impacts on abalone populations. These have been considered in the assessment of impacts and are reflected in the medium to high consequence and significance ratings of impacts which may affect this species. For details regarding the thermal plume please see the modelling report.
- The concerns of the DICT regarding kelp as a food source for the abalone are acknowledged. As stated in the marine report the most severe impacts of spoil disposal are associated with Alternative 4. For this option the maximum suspended sediment concentration reaches levels above 80 mg/l near the water surface over a very limited area at any time during or after disposal. This will minimize any impacts as this sediment plume will occur offshore and hence avoids potentially sensitive areas, such as nearshore kelpbeds (and associated abalone). The level of 80 mg/l has previously been identified as a threshold above which probable adverse ecological effects will occur. With regards to the impacts of the thermal plume, as described in the marine report, this will be spatially variable and limited, and as such is not considered to be overly detrimental to kelp.
- The wording in the report will be changed to reflect the fact that radionucleotide levels in abalone will be monitored especially, but not only, due to their economic value.

#### Other benthic species (Section 7.2, page 33)

- The comments by Professor Branch referred to have been taken out of context. These comments refer to the collection of benthic samples as part of the assessment process and not for monitoring. This is due to the fact that there has been relatively sparse sampling of the nearshore subtidal benthos off the South African coast and as such it would be almost impossible to say how representative the habitats present at each of the proposed Nuclear-1 sites might be, even if they were sampled. This is not considered a fatal flaw as (1) sufficient information relating to commercially-important benthic resources exists to enable a scientifically rigorous evaluation the relative importance of the sites and (2) warm water effluent from the proposed development will be concentrated near the surface and is unlikely to impact benthic habitats. Most benthic species also have wide distribution patterns and widely dispersing pelagic larvae (allowing rapid recolonisation following disturbance). It is thus highly unlikely that benthic surveys would have revealed information that would influence the conclusions of this study.

#### Whales and dolphins (section 7.3, page 33)

- We acknowledge that we are not specialists in the field of marine mammals. Nonetheless, we feel that we have been able to adequately assess the impacts on these animals. With the aid of comments by the DICT we have substantially added to the description of ecology of these animals in the Bantamsklip area. Additionally, monitoring of the two coastal dolphin species has been added to the monitoring requirements in Section 5.2.2 of the marine report and it has been stated that the design of such a programme should be done in consultation with Professor Peter Best of the University of Pretoria.
- All the potential impacts on cetaceans raised by the DICT are acknowledged. However, the fact that these will be temporally (turbidity, background noise and new habitat) and/or spatially (increased water temperature) limited must be borne in mind. The marine report accepts that

these animals may avoid the area during construction and avoid the warm water plume during the operational phase, but there is no reason to believe that avoidance of this small area would manifest in negative impacts at a species level. The fact that the outflow of the cooling system will be placed at a depth of 25 m will not only protect abalone populations, but will also prevent potential disturbance of Indo-Pacific Humpback dolphins which are seldom found in waters deeper than 20 m.

#### Cape Fur Seals (section 7.4, page 36)

- Due to the fact that the breeding colonies of seals are a distance from the proposed site and that impacts such as noise and elevated water temperatures would be localised around the power station it not foreseen that seals would be exposed to levels of disturbance which would induce mothers to abandon their pups. As the impacts of noise on Cape Furs seals have not been quantitatively determined before, monitoring of noise levels would be useless, as noise level data could not be linked to any specific ecological responses.
- As this species is neither rare nor endangered, (it is in fact considered widespread and abundant by the IUCN) it cannot be motivated that construction be completely halted during the breeding season, especially considering that the breeding colony is 10 km away from the proposed site.
- As explained above, the intake rate of water (i.e. 1 m/s) will not be strong enough to entrain large organisms, such as marine mammals. In addition, filters which have a grid size small enough to exclude fish from the intake pipes will most certainly not allow larger organisms, such as juvenile seals, to pass.
- Again it must be reiterated that the proposed power station would impact a very limited area. The area around the seal colonies is not expected to be affected by either spoil or elevated temperatures and so local affects on the foraging of juvenile seals is not expected. Adult seals forage offshore and are thus also not expected to be impacted.

#### Sharks and other fish species (section 7.5, page 37)

- It must again be emphasised that the proposed power station would impact a very limited area. The comment about Great White sharks being attracted to the noise of the construction site is speculation. As acknowledged by the DICT little is known about hearing in these predators.
- While that fact that sharks are visual predators and would be impacted by extensive turbidity introduced into the water column is not disputed, the extent of the sediment plume must be remembered. Prestedge showed that for the worst case scenario (Sediment disposal Alternative 4) suspended sediment concentrations above 80mg/l at the water surface will be restricted to less than 1 km<sup>2</sup> and will occur for no more than 2 days (note that the level of 80 mg/l has previously been identified as a threshold above which probable adverse ecological effects will occur). This turbidity remains well clear of Dyer Island. This demonstrates that turbidity will be spatially and temporally restricted, thus not impacting significantly on the sharks. This explanation will be added to the marine report for clarity.
- Oceanographic modelling predicts that the two most westerly viewing sites will not be affected and that the two sites off Pearly Beach will experience a mean increase in water temperature of 1°C and a maximum increase at any one time of 2-4 °C. (Note: GPS co-ordinates for viewing sites were provided by the DICT). As stated in the marine report the fact that Great Whites occur in areas both warmer (off the warm Mozambique coast) and colder (off the cold South African west coast) waters than those at Bantamsklip is indicative of its broad temperature tolerance. Considering this it cannot be argued that a spatially restricted rise in

water temperature will negatively affect the sharks, although shark viewing at the two easterly sites may be affected for short periods (days).

- As explained above, the intake rate of water (i.e. 1 m/s) will not be strong enough to entrain large powerful swimmers such as sharks. In addition, filters which have a grid size small enough to exclude fish from the intake pipes will most certainly not allow larger organisms such as sharks to pass.

Penguins and other seabirds (section 7.6, page 39)

- As explained above, the intake rate of water (i.e. 1 m/s) will not be strong enough to entrain large organisms like marine mammals sharks or seabirds. In addition, filters which have a grid size small enough to exclude fish from the intake pipes will most certainly not allow larger organisms to pass.
- Due to its spatially limited extent the warm water plume will not negatively affect the prey (or foraging) any seabirds.
- While impacts were recorded during the construction of the Coega Harbour, it must be borne in mind that the turbidity associated with the disposal of spoil in this development will differ in a number of ways. Firstly, the extent of the turbidity plume will be spatially limited (see details above in second point under Sharks and other fish). Secondly, spoil disposal will occur for a maximum period of a year and hence elevated turbidity will be more temporally limited than during the Coega development. Thirdly, turbidity above 80 mg/l will not occur around Dyer Island.

**Response: Recommended Research (Section 8, page 41).**

The comments below refer to all the recommendations made by DICT in Section 8 of their report. To avoid repetition, recommendations are dealt with on a species by species basis and not under the headings of the various operational stages of the proposed development. Please note that for monitoring to be useful it should occur before construction, during construction, after construction and prior to operation and then during the operation of the proposed power station. The comments below should be read in this context.

Abalone:

- Action plan: It is not reasonable to expect Eskom to implement an equivalent to the envisaged safety zone until the site for the development has been selected and they have taken possession and control of the area. And legal considerations are likely to prevent that action as well. Please note that the marine ecology specialists raised the same concerns as the DICT with regards to the implementation of the exclusion zone with Eskom. We were assured that it would be a legal requirement imposed by the National Intelligence Agency that the area be policed and people be excluded. While the inability of the national police force to stop poaching in the area is noted, the presence of 24 hour patrolling by armed guards and the accompanying surveillance legally required of Eskom will surely prevent unauthorised access to the safety zone.
- While *H. midae* do occur to depths of 23 m, along this section of coast approximately 80% of the population occurs in the 0-5 m depth range. The above adult distribution, combined with the fact that the degree of larval dispersal is thought to be fairly limited, as spawned ova stay in suspension for only a few minutes and *H. midae* has a short planktonic larval stage, temperature changes in the depth range of 0-5 m are of greatest concern. As such the cooling water outlet will be placed offshore to protect these shallow stocks (see discussion in Section 3.2.3 for details of the thermal plume). Considering the above and the fact that for an offshore

tunnel releasing at a depth of 25 m the mean increase in temperature will not exceed 1°C near the seabed, potential impacts on abalone are being largely avoided. Thus a study on the thermal tolerances of abalone gametes will be of academic interest, but will not provide much useful input into the assessment of impacts on abalone.

- Abalone stock model. The establishment of a population model is no trivial exercise. A number of the parameters suggested for inclusion in a model are not quantifiable. (1) It is not logistically possible to actually count all individuals in an area as big as the proposed safety zone. (2) Quantification of gamete mortality will be impossible. Even if thermal tolerances are determined in laboratory experiments it is not possible to transpose these into the real world, as both temperature variations and gamete densities would need to be established throughout the water column for the whole exclusion zone. These factors vary on a diurnal scale, not to mention seasonal and weather induced variation. Additionally, as explained above, gametes are not even expected to be significantly affected by the thermal plume. (3) Its simply not possible to empirically quantify potential impacts on abalone and kelp. (4) Quantification of the impacts of poaching on abalone populations is fraught with problems and the reliability of such a measure is questionable. Considering the above practical constraints, and the uncertainty which would unavoidably be introduced into the proposed model, the value of the model outputs would be questionable at best.
- As stated in the marine ecology report there is no certainty that a mandatory security exclusion zone will be imposed in the marine habitat seawards of the proposed NPS. Instead a much smaller safety zone (800 m around the power station and 1 km out to sea) is likely to be implemented. The exact dimensions of the safety zone out to sea are yet to be decided upon and are dependent on a recommendation by the National Intelligence Agency.

#### Sea birds:

- Due to the fact that no significant impacts are anticipated on the African Penguin, the current suggested monitoring programme for this species is considered more than adequate.

#### Cetaceans:

- As described in the marine report and repeatedly elaborated on above no significant impacts are expected on cetaceans as a result of the potential development. This is especially true for the wide ranging Southern Right, Brydes and Humpback Whales. It is agreed that a case could be proposed for monitoring of the coastal Indo-Pacific Humpback Dolphin and Indo-Pacific Bottlenose. We are therefore recommending that, should Bantamsklip be chosen as the site for the power station, Professor Peter Best of the University of Pretoria be asked to evaluate whether a monitoring programme considering behaviour and density of these species should be designed and implimented. Such monitoring could, inter alia, take into account the potential affects of noise levels and turbidity during the construction phase and noise levels and the thermal plume during the operational phase.

#### Seals

- As detailed in the above replies to DICT concerns, no significant impacts are expected on the seals of the area. As such the suggested monitoring would hold academic interest, but would not be of significance in the context of monitoring the ecological impacts of the proposed development.

#### Fish

- As detailed above no significant impacts on Great White sharks or fish are anticipated. As such the suggested monitoring is not considered necessary.

#### Pipelines and sediment

- The marine ecology report does not say that monitoring during the construction of the cooling system is not possible. What the report says is that no mitigations measures are possible. The report clearly acknowledges that a limited area of marine habitat will be lost during this stage of the development. As it is known that this loss will occur, monitoring it will be pointless. Recovery is expected through time. A wider scale monitoring programme considering sandy and rocky shores and the shallow benthic environment in the immediate area of the pipeline will be added to the requirements detailed in the marine ecology report.