

#### **4.5.19 Heritage**

The appointed specialist will be required to undertake the following:

- Conduct desk-top and field investigations of the area;
- Assess the nature and degree of significance of heritage resources including the mapping of where artifacts are located on each of the sites;
- Establish heritage informants/constraints to guide the development process;
- Provide recommendations for the appropriate heritage management of the positive and negative impacts;
- Identify and consult with the local communities, via their recognised spokesman, with particular regard to archaeological finds along the coast; and
- Establish the cause-effect pathways resulting from the proposed NPS, eg. The closure of access resulting in the loss of traditional patterns of use.

#### **4.5.20 Tourism**

The tourism impact assessment will assess the impact of the proposed NPS on sea usage and the tourism industry adjacent to proposed sites, including:

- Extent and scope of tourism in the area;
- Establish the number of workplaces that will become vacant as a result of a decline in tourism;
- Investigate whether a development of this kind is in line with the regions tourist planning strategies;
- Investigate the probable effect on the tourism economy arising from both routine and accident conditions, on the local, provincial and Garden Route regions;
- Activities and attractions of tourism;
- Assess the impact of the proposed NPS on the Great White Shark and Whale Watching tourism activities;
- Seasonal peaks of tourism, if any, and how this affects local infrastructure;
- Current and potential future impacts on the coastal zone and tourism, including off shore areas such as diving and recreational facilities;
- Supply economic consequences values to Social Accounting Matrix and broader economic impact assessment; and
- Description of potential impact, including tourist perceptions of safety.

#### **4.5.21 Transport**

Based on DEAT's comments on the Final Scoping Report, dated 19 November 2008, it was agreed that the evacuation times and the emergency planning zones would be determined by Eskom and will form part of the NNR process. The detailed scope of work for the transport study shall be limited to the following:

- Site visit and traffic counts at critical road links in the area of each site under consideration;
- Site access;
- Visual inspection of the routes to the Port and waste storage site;
- Meetings with the Authorities;
- Ranking of sites based on their suitability in terms of transport requirements; and
- Identify transportation, civil and industrial facilities located outside of the owner controlled boundary (OCB) that may affect the feasibility of emergency planning.

The following information must be obtained:

- Air:
  - Aircraft and runway characteristics;
  - Flights over a five year period and regular events;
  - Future development proposals for new, extensions and/or closure of airports;
  - Structures and infrastructure serving the airport i.e. runways, hangers, control towers, landing lights;
  - Amount and type of fuel (litres) stored on site and frequency of delivery and source;
  - Period of operation; and
  - Historical accident data shall be recorded including date, type of aircraft, propeller or jet, mass, crash location, place name, distance from the OCB, flight application, private, commercial or training, emergency services, cargo over a 20 year period; and
  - Air routes within the 80 km annulus shall be determined.
- Road and Rail:
  - Conceptual design of required upgrades for the facility or to improve evacuation times. It should, however, be noted that actual analyses required for evacuation will be determined by the National Nuclear Regulator process;
  - Background (traffic counts) and projected traffic flow;
  - Implication of NPS operation (including routing of heavy vehicles);
  - Discussion of location in terms of access, spacing, sight distance and operational requirements;
  - Calculation of trip generation and heavy vehicle movement frequency;
  - Analysis of the existing and future operational networks;
  - Existing and future projections (5, 10, 50 years) of the transport network;
  - Fuel and radioactive transporting routes;
  - The frequency and type of rail use; and
  - Hazardous materials and products regularly manufactured, stored, used or transported to/from site and within eight km of the site. Statistical data shall be provided in terms of the amounts involved, modes of transportation, frequency of shipment and maximum quantity of hazardous material likely to be processed, stored, or transported at any given time. The applicable toxicity limit for each hazardous product and/or material will be provided.

- Harbours and shipping:
  - Ports and harbours (activities, functions, types of vessels, produce, movements, structures and infrastructure, port or harbour control and security, commercial or recreational facility, fuel storage capacities and types of fuel stored);
  - Port/Harbour activity (total tonnage handled per month/per year for a five year period (if available)). Factors or events that may impact on volume handled;
  - Types of produce handled (per ton for imports and exports);
  - National Sea Rescue Institute (locations and activities);
  - Small craft launch facilities: description, location and general usage/types of vessels; and
  - Shipping lanes: Obtain information from the National Ports Authority.

#### **4.5.22 Site Control**

The study will assess various aspects with respect to site control, including the following:

- Site security;
- Access control (ingress and egress of both during construction and operational phases); and
- Owner control areas.

#### **4.5.23 Emergency Response**

The following tasks will be undertaken as part of the emergency response study:

- Address all emergency procedures applicable to both the construction and operational phases; and
- Consider evacuation and resources required for effective execution of the emergency responses.

### **4.6 Specialist Reviews**

All reports produced during the detailed Impact Assessment Phase of the EIA will be peer reviewed. A comprehensive review panel has been established, which includes specialists in the respective specialist fields for all specialist studies (**Table 5**). Further peer reviews include legal review specialists, process review specialist as well as a nuclear review specialist. Once these reviews have been completed the public and authority reviews will be conducted.

**Table 5: Independent Specialist Reviewers**

| <b>Discipline</b>           | <b>Reviewer</b>   | <b>Organisation</b>   |
|-----------------------------|-------------------|---|
| Geology                     | Timothy Partridge | University of the Witwatersrand                                 |
| Seismology                  | Johan de Beer     | Independent Consultant  |
| Geohydrology                | Christine Colvin  | Council for Science and Industrial Research (CSIR) Stellenbosch |
| Geomorphology               | TBA               | TBA   |
| Geotechnical                | Peter Day         | Jones and Wagener   |
| Flora                       | Roy Lubke         | Rhodes University   |
| Fauna (Invertebrates)       | Dawid Jacobs      | University of Pretoria  |
| Fauna (Vertebrates)         | Tony Williams     | Cape Nature Conservation  |
| Hydrology                   | Arthur Chapman    | Council for Science and Industrial Research                     |
| Freshwater Supply           | Allan Bailey      | SSI   |
| Freshwater Ecology          | Dave Blair        | SiVest Environmental Division                                   |
| Oceanography                | Geoffrey Brundrit | Independent   |
| Marine Biology              | George Branch     | UCT Zoology Department  |
| Air Quality and Climatology | Donald Lush       | Independent Consultant  |
| Social                      | Greg Huggins      | Water for Africa  |
| Economic                    | Randall Gross     | African Development Economic Consultant                         |
| Toxicology                  | Michael Holiday   | Michael Holiday and Associates                                  |
| Agriculture                 | Garry Paterson    | Agricultural Research Council                                   |
| Noise                       | Francois Malherbe | Francois Malherbe Acoustic Consulting cc                        |
| Visual and Aesthetics       | John Drummond     | John Drummond Landscape Architects                              |
| Archaeology and Heritage    | John Parkington   | University of Cape Town   |
| Tourism                     | Dave Blair        | SiVest Environmental Division                                   |
| Accessibility and Transport | Stephanus Naude   | HHO Africa  |

#### **4.7 Public Review of the Draft EIA Report and Draft EMP**

The draft EIA and EMP reports will be made available simultaneously at various public places that have been identified in consultation with I&APs for their review and comment. It is anticipated that a 60-day period will be allocated for this review.

As with the Draft Scoping Report the availability of the Draft EIA and EMP will be advertised in the relevant newspapers, again in English and Afrikaans as the predominant languages. All those I&APs that are included on the project database will be sent notification of its availability by letter. All of the above mentioned reports will also be hosted on the Eskom website: [www.eskom.co.za/eia](http://www.eskom.co.za/eia).

#### **4.8 Authority Review**

Once the public review period has closed all the comments received from the public will be considered and included into both the EIA and EMP reports. Subsequently, the final documents will be submitted to all relevant Authorities for review, comment and decision-making.

#### **4.9 Authorisation**

On receipt of an authorisation (positive or negative) all registered I&APs will be informed by letter, about the decision and the associated terms and conditions. I&APs will also be reminded of the Appeal process and the timeframes in which to submit any appeals in the event that they wish to appeal the Authorities decision.

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## **5 CONCLUSIONS AND RECOMMENDATIONS**

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The correct and appropriate standards and procedure for the EIA application, as set out in the NEMA, as amended, and the EIA Regulations of 2006, have been followed in the environmental authorisation process to date. This Scoping Study has been informed, to a large degree, by the availability of existing information as well as information compiled by a multi-disciplinary team of specialists. The Scoping Study includes an analysis of various alternatives and indicated those site alternatives, which should be pursued as part of the detailed assessment phase of the process i.e. Duynefontien; Bantamsklip and Thyspunt.

However, based on Eskom's decision to pursue a fleet of NPSs, the original application for environmental authorisation was revised to include a combined application to develop three NPS on the above-mentioned three sites opposed to one NPS for development on one of three potential sites. Thus, the consideration of site alternatives is no longer relevant, however, alternative site layouts will be considered within each of the three sites.

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## 5.1 Key impacts identified to date

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The project team undertook site visits to each of the sites in order to obtain a cursory overview of the potential risks and key issues associated with the development. Risks and key issues associated with the construction, operational and decommissioning phases were identified in consultation with I&APs. The key issues that have been identified at this stage include:

- Geological and geotechnical suitability;
- Depth of water table and associated dewatering requirements as well as the repercussions in terms of surrounding water users;
- Source of water supply for operations of the NPS;
- Disturbance and disruption of terrestrial ecological processes such as loss of habitat and associated flora and fauna. The disruption of migration patterns between the coast and inland as well as mobile dunes;
- Marine ecology disturbance through requirements for cooling water, the potential for desalination and activities associated with the disposal of brine;
- Health, safety and security of the site as well as limitations of to surrounding land use;
- Changes to community structures through the influx of workers and associated infrastructural requirements;
- Change in tourism activities;
- Visual disturbance;
- Loss of heritage and cultural resources;
- Loss of potential agricultural land;
- Wind generated dust during construction;
- Construction of required facilities and infrastructure associated with accessibility to the site, transport as well as the integration of the generated power into the networks; and
- Waste handling and management.

Positive benefits identified to date include:

- Improved electricity network in the Cape region and South Africa as a whole, which could stimulate much-needed local economic growth and reduce current power shortages;
- Large conservation areas are already in place at each site and will be declared formal conservation areas as is the case with the existing Koeberg nuclear power plant. Potential increase of these conservation areas due to offsets, access requirements and emergency zones;
- Significantly lower greenhouse gas emissions when compared with that of coal fired power stations;
- Direct long-term economic injection to the local economies;
- Job opportunities in current high unemployment areas;
- Protection of heritage and cultural resources in the undisturbed areas of the sites; and

- Possible upgrade of infrastructure in the local area (roads, bridges, sewer, water supply, communication, schools, clinics, etc.).

Detailed specialist studies will be conducted during the detailed impact assessment phase of the environmental authorisation process. These studies will provide an in depth understanding of the key issues and the potential positive and negative impacts associated with the proposed development with respect to the social, biophysical and economic environments.

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## **5.2 Public Participation during the Scoping Phase**

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This initial phase of the EIA process has included an extensive public consultation process, undertaken by independent public consultation consultants in conformance with the requirements of the EIA Regulations. The database of I&APs, who received information, attended public meetings, stakeholder workshops and focus group meetings, amounted to approximately 7000 I&APs at the time of drafting this report. These I&APs were also invited to comment on the proposed project. In total 35 meetings were held in various locations throughout the Eastern, Western, Northern and Southern Cape, the coverage and range of communities, organisations and sectors canvassed was comprehensive. The proposed project was also widely advertised, with a total of 25 advertisements placed in various local, regional and national newspapers. All relevant new issues, concerns and alternatives raised during the comment period on the Draft Scoping Report were considered and included in the Final Scoping Report as appropriate.

This revised Plan of Study for EIA will be placed in the public domain for a period of 30 days. Thereafter, the comments will be incorporated into the document and submitted to the DEAT for their review and approval. All registered I&APs will be notified in writing of the availability of the revised Plan of Study for EIA.

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## **5.3 Alternatives assessed**

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Given the urgent power demand based on economic growth in South Africa, the no go option is not considered to be a logical alternative, as Eskom must provide power. Eskom would in all likelihood, apply to develop more coal fired power stations if the 'no go' alternative is adopted. Other technological alternatives of power generation involving coal as a resource are not viable options for the Cape coast, at present, although Eskom is committed to identifying ways in which renewable energy may be utilised to assist in the supply side of its operations. Identified renewable forms of energy are inadequately developed to provide large scale power generation facilities that can supply a reliable base load and easily integrate into the existing power network in South Africa.

In terms of optimal, strategic and cost effective utilisation of existing infrastructure associated with the Duynefontien, Bantamsklip and Thyspunt

sites, and the provision of the power within the required timeframes, it was recommended that Brazil and Schulpfontein sites be excluded from further comparative assessments and consideration during the detailed assessment phase of the environmental authorisation process. It should, however, be noted that despite the proposed exclusion of Brazil and Schulpfontein, from the detailed impact assessment phase for the proposed NPSs, this does not preclude these sites from the development of NPSs in the future.

Should Eskom pursue a revised combined application for environmental authorisation, it would be Eskom's intention to sequentially construct NPSs on each of the following sites (see Table 1 for the anticipated roll out of power stations):

- Duynfontein;
- Bantamsklip; and
- Thyspunt.

Thus, specialists will no longer be required to compare, rank and provide recommendations with respect to a single preferred site. Nevertheless, the detailed impact assessment phase of the process, will evaluate alternative layouts within each of the three sites.

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## **5.4 Specialist studies**

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The Terms of Reference for specialist studies were formulated taking cognisance of comments received during the public participation process to date. These terms of reference ensure that potential environmental impacts are adequately investigated during the detailed impact assessment phase of the environmental authorisation process and that any relevant shortcomings and/or gaps are addressed. Specialists will be required to assess and rate potential impacts in terms of a rigorous impact assessment methodology. This includes consideration of uncertainty and potential cumulative effects. Specialists would also be required to consider and recommended mitigation measures in light of their likely effectiveness and practicality.

Independent specialist reviewers in the various specialist study fields will review the adequacy of the specialist reports before they are finalised and integrated into the EIA Report.

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## **5.5 Way forward**

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The revised Plan of Study for EIA will be placed in the public domain for 30 days, for public review and comments. The comments will be incorporated into the relevant documents and submitted to the DEAT for their review and approval.



Once DEAT approve of the revised Plan of Study for EIA, the detailed specialist studies will be completed and peer reviewed. The results of the specialist studies will subsequently be integrated to form a Draft Environmental Impact Report, which would be distributed for public review for a period of 60 days. As with the Draft Scoping Report, a number of public interactions will be held during the comments period on the Draft Environmental Impact Report. Thereafter, the report will be updated and submitted as the Final Environmental Impact Report to the relevant environmental Authorities for consideration and decision-making as well as for public review.

**Appendix 1: DEAT's letter of approval regarding the Scoping Report and their comments on the Plan of Study for EIA**