

7 EIA METHODOLOGY

This chapter discusses the methodology that was followed for the EIA and public participation processes. The Scoping Phase identified the environmental issues that need to be addressed and investigated in the EIA phase and identified the three sites that need to be taken forward into the EIA phase. The issues identified include all environmental issues, including potential social and biophysical impacts associated with all phases of the project, namely construction, operation and decommissioning. The impacts associated with the No-Go alternative will also be assessed. This section indicates the methodology that was followed by all specialists to assess the significance of the impacts, as well as the methods that were followed to keep interested and affected parties (I&APs) informed throughout the Scoping and EIA Phases.

The Scoping Phase commenced in September 2006 and ended in August 2008, with the approval of the Final Scoping Report by the then DEAT. The EIA phase commenced in September 2009

The EIA process, including the Scoping and EIA Phases, and where this Draft Environmental Impact Report fits into the process, are indicated in **Figure 7-1**.

The DEA approved the Plan of Study for EIA in January 2009 (Appendix B2). The Draft EIR has been prepared and has been provided for public comment. Once the public comment period is over, a final EIR will be prepared and submitted to the DEA for decision-making.

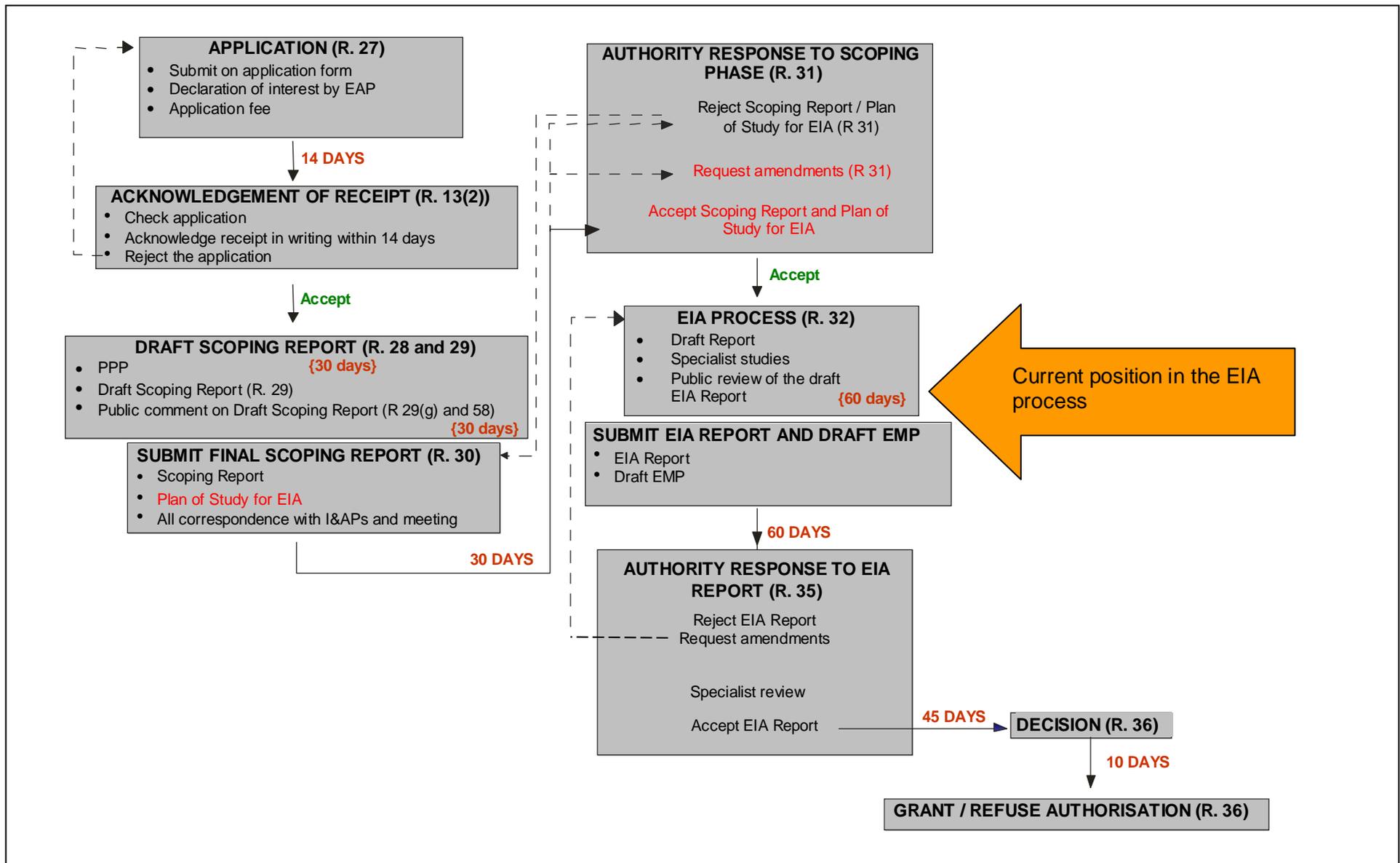


Figure 7-1: Flowchart of the Scoping and EIA process, indicating the current stage in the process

7.1 Public Participation Process

The principles that govern communication with society at large are best embodied in the principles of the Environmental Management Act (NEMA) (Act No. 107 of 1998, Chapter 1), South Africa's overarching environmental law. Public participation for environmental authorisation is guided by the EIA Process Regulation (GNR 385) and Guideline 4: *Public Participation in support of the EIA Regulations* (part of the guidelines for the implementation of Environmental Impact Assessment Regulations in terms of section 24(5) of the NEMA).

7.2 Objectives of public participation in an EIA

Public participation is the involvement of all parties who potentially have an interest in a development or project, or may be affected by it, directly or indirectly. It is a process leading to a joint effort by stakeholders, technical specialists, the authorities and the Applicant who work together to produce better decisions than if they had acted independently.

The objectives of public participation in an EIA are to provide sufficient and accessible information to stakeholders in an objective manner to assist them to:

- **During the Scoping Phase**
 - raise issues of concern and suggestions for enhanced benefits;
 - verify that their issues have been recorded;
 - assist in commenting on feasible alternatives; and
 - contribute relevant local information and knowledge to the environmental assessment.

- **During the EIA Phase**
 - contribute relevant local information and knowledge to the environmental assessment;
 - verify that their issues have been considered in the environmental investigations; and
 - comment on the findings of the environmental assessment.

• **During the Decision-making Phase**
be notified of the decision by the competent environmental authority on whether or not the project may proceed, and provide the opportunity for appeal.

Throughout the public participation process, the social impact assessment specialist was kept informed of the outcome of the public interactions, and also attended a number of public meetings and workshops in order to be kept informed of the issues of social importance, so that he could address these issues in the Social Impact Assessment (SIA). The SIA specialist was also provided with the minutes of all public, key focus group and meetings and key stakeholder workshops. This is in addition to the direct interactions (e.g. one-on-one interviews) that this specialist had with selected key stakeholders.

7.3 Public participation during the Scoping Phase

During the Scoping Phase, various public participation activities were undertaken, aimed at:

- Ensuring that all relevant stakeholders have been identified and invited to engage in the scoping process;
- Raising awareness and increasing understanding of stakeholders about the proposed project, the affected environment and the environmental process being undertaken;
- Creating open channels of communication between stakeholders and the project team;
- Providing opportunities for stakeholders to identify issues or concerns and suggestions for enhancing potential benefits and to prevent or mitigate impacts;
- Accurately documenting all opinions, concerns and queries regarding the project; and
- Ensuring the identification of feasible alternatives and significant issues related to the project.

7.3.1 Identification of Interested and Affected Parties

In terms of the EIA Regulations under NEMA, stakeholders are required to formally register as I&APs for the EIA. The Public Participation Office started this process (**Box 1**) by developing an initial stakeholder list and advising stakeholders by letters addressed to them personally of the opportunity to register for the EIA. **Box 2** shows that these I&APs represented a broad spectrum of sectors of society.

Box 1 - Identification of Interested and Affected Parties (I&APs)
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I&APs were identified through:

- | |
|---|
| <ul style="list-style-type: none">• Stakeholders that participated in 400 MW (t) Pebble Bed Modular Reactor Demonstration Power Plant (2005/2006).• Liaison with district and local municipalities within the three provinces (Eastern, Northern and Western Cape).• Advertisements in national, regional (all provinces where nuclear sites are proposed) and local publications in three languages (Afrikaans, English and Xhosa).• Registration process via a registration and comment sheet accompanying a Background Information Documents (BID).• Requesting I&APs to suggest on the comment sheet the names of stakeholders who should be involved in the EIA process. |
|---|

All I&APs identified in May 2007 received personalised letters, which were accompanied by a Background Information Document, printed in three languages (Afrikaans, English and Xhosa).

Box 2 - Sectors of society represented by I&APs on the direct mailing list

- National Government.
- Provincial Government (Eastern, Northern and Western Cape Provinces).
- Local Government (local and district municipalities).
- Agriculture (landowners, unions, farmers' associations).
- Tourism (tourism associations, landowners, operators, managers).
- Conservation authorities, including provincial nature reserves.
- Residents' and Ratepayers' Associations.
- Local residents.
- Environmental groups.
- Statutory and regulatory groups.
- Public enterprises, utilities and agencies.
- Organised business/commerce.
- Landowners.
- Industry.
- Media.
- Libraries.
- Educational organisations and institutions.
- Academics and consultants.

7.3.2 Registration of I&APs

The registration of I&APs has been an ongoing activity. During the Scoping Phase (up to August 2008), there were approximately 5 500 stakeholders registered as I&APs. These included landowners near the proposed sites, residents surrounding the proposed sites, all the authorities at the three spheres of government, I&APs that attended meetings, or had submitted comment or completed the registration sheet distributed with the BID, general public from various provinces (over and above the directly affected) in South Africa and representatives of interest groups living abroad.

A database of I&APs, indicating I&AP names and affiliations, is provided as **Appendix D7**.

7.3.3 Announcement of opportunity to become involved

The opportunity to participate in the EIA and to register as an I&AP was announced in May 2007 in three languages (Afrikaans, English and Xhosa) as follows¹:

- Placement of newspaper advertisements in 25 newspapers (**Table 7-1**) including national, regional and local newspapers. The advertisements were placed during the period 25 May 2007 - 28 September 2007.

Table 7-1: Paid newspaper advertisements for project announcement

No	Advertisements	Distribution	Language	Publication Date
1	<i>Sunday Times</i>	National	English	27 May 2007
2	<i>Rapport</i>	National	Afrikaans	27 May 2007
3	<i>Argus</i>	Regional	English	25 May 2007
4	<i>Cape Times</i>	Regional	English	25 May 2007
5	<i>Burger</i>	Regional	Afrikaans	25 May 2007
6	<i>Kaap Rapport</i>	Regional	Afrikaans	27 May 2007
7	<i>The Herald</i>	Regional	English	25 May 2007
8	<i>Gansbaai Courant</i>	Local	Afrikaans	06 June 2007
9	<i>Gansbaai Herald</i>	Local	English	06 June 2007

¹ Proof of these is contained in Appendices of the Draft and Final Scoping Reports.

No	Advertisements	Distribution	Language	Publication Date
10	<i>Hermanus Times</i>	Local	English	31 May 2007
11	<i>Table Talk</i>	Local	English	30 May 2007
12	<i>Tygerburger Table View</i>	Local	English	30 May 2007
13	<i>Kouga Express</i>	Local	English	31 May 2007
14	<i>Our Times</i>	Local	English	31 May 2007
15	<i>PE Express</i>	Local	English	30 May 2007
16	<i>Algoa Sun</i>	Local	English	31 May 2007
17	<i>Ons Kontrei</i>	Local	Afrikaans	1 June 2007
18	<i>Gemsbok</i>	Local	Afrikaans	30 May 2007
19	<i>Swartland Weskus Herald</i>	Local	Afrikaans	02 August 2007
20	<i>Tygerburger Milnerton Classified</i>	Local	English	01 August 2007
21	<i>Table Talk</i>	Local	English	01 August 2007
22	<i>Hermanus Times</i>	Local	English	09 August 2007
23	<i>Suidernuus</i>	Local	Afrikaans	10 August 2007
24	<i>Die Plattelander</i>	Local	Afrikaans	28 September 2007
25	<i>Die Namakwalander</i>	Local	Afrikaans	28 September 2007

- Distribution of a letter of invitation to become involved, personally addressed to initially registered I&APs, accompanied by a BID and a registration/ comment sheet. The BID contained details of the proposed project, maps showing the South African coastline and the proposed nuclear sites, and a registration and comment sheet for I&APs to register for the EIA. The registration and comment sheet also provided the opportunity for I&APs to indicate if they wished to receive further project correspondence.
- Delivering BIDs, accompanied by comment and registration sheets, at various public libraries (June 2007 - August 2007). **Table 7-2a** and **7-2b** show the distribution of the BID at public libraries and other public venues, respectively.

Table 7-2a: Distribution of BIDs at public libraries during the Scoping Phase

Province	Public Libraries	Contact Person
Western Cape	Atlantis Public Library	Mr A Davids
Western Cape	Beaufort West Public Library	Mrs A van Niekerk
Western Cape	Bredasdorp Public Library	Ms Danelle Rossouw
Western Cape	Cape Town Central Library	Librarian In Charge
Western Cape	Clanwilliam Public Library	Mrs N Leens
Western Cape	Elim Library Depot	Ms A Engel
Western Cape	Gansbaai Public Library	Ms Sharman Geldenhuys
Western Cape	Hermanus Public Library	Ms Alette Olwage
Western Cape	Koeberg Public Library	Mrs R Brown
Western Cape	Laingsburg Public Library	Mr F van Wyk
Western Cape	Malmesbury Public Library	Ms van der Vyver
Western Cape	Milnerton Public Library	Mrs Marietha Eyssen
Western Cape	Pearly Beach Public Library	Mrs Sharman Geldenhuys
Western Cape	Piketberg Public Library	Ms Rounelle McKnight
Western Cape	Vredenburg Public Library	Ms Salome Visagie
Western Cape	Welverdiend Public Library	Ms Lilian Newman
Western Cape	Wesfleur Library, Atlantis	Ms Jennifer Daniels
Eastern Cape	Humansdorp Public Library	Ms Marilyn Loggenberg
Eastern Cape	Jeffrey's Bay Public Library	Ms Linda Jack
Eastern Cape	Kareedouw Public Library	Ms Geraldine Kleinbooi
Eastern Cape	Kruisfontein Public Library	Ms Cathy Damons
Eastern Cape	St Francis Bay Public Library	Mrs Marie Brown
Eastern Cape	Ukhanyisa Public Library	Ms Precious Vumasonke
Eastern Cape	Plettenberg Bay Public Library	Mrs M Johnston
Northern Cape	Richtersveld Public Library	Mrs Cecilia Rossouw
Northern Cape	Springbok Public Library	Mrs S Victor

Table 7-2b: Distribution of BIDs at additional public venues during the Scoping Phase

Province	Local Public Venues	Contact Person
Western Cape	Arcus GIBB (Cape Town Offices) 14 Kloof Street, Cape Town	Reception
Western Cape	Baardskeerdersbos Winkel	Mr Manie Groenewald
Western Cape	Cape Agulhas Tourism Bureau, Bredasdorp	Ms Sanet Stemmet
Western Cape	Palmiet Pumped Storage Scheme, Visitors Centre	Ms Jenny Holthusyen
Western Cape	Wolvengat Community	Ms Kali Griffin
Eastern Cape	Oesterbaai Eiendome	Ms Elmarie Meyer
Eastern Cape	Jeffrey's Bay Business Forum	Mr Jannie Kruger
Eastern Cape	Jeffrey's Bay Tourism Office	Reception
Northern Cape	Komaggas Advise Office	Mr Jerry Landrew
Northern Cape	Houthoop Shed	Ms Veronica van Wyk

- Posting the invitation letter, BID, registration and comment sheet on the Eskom website www.eskom.co.za/eia under the "Nuclear-1" link.
- Erecting notice boards at all five sites (**Figures 7-2 to 7-6**).



Figure 7-2: On site Notice at Duynfontein



Figure 7-3: On site Notice at Bantamsklip



Figure 7-4: On site Notice at Brazil, Northern Cape



Figure 7-5: On site Notice at Schulpfontein, Northern Cape



Figure 7-6: On Site Notice at Thyspunt site, Eastern Cape

Since the announcement of the project in May 2007, the EIA process has enjoyed a fair amount of media coverage (Media Inserts 1 and 2). Several media articles have also encouraged the public to register as I&APs by publishing the contact details of the Public Participation Office.

Town angry over nuclear power station plans

ANÉL POWELL

CAPE TOWN: Despite assurances by Eskom three years ago that there were no plans to build a nuclear power plant at the Western Cape coastal resort of Pearly Beach, the parastatal has again named the area as a potential site for a new power station.

The inclusion of Bantamsklip, just 10km south-east of Pearly Beach, outside Gansbaai, as one of five potential sites for the second nuclear power station has enraged environmental group Earthlife Africa and has residents of the

fontein in the Northern Cape and Thyspunt, near Cape St Francis in the Eastern Cape.

Maya Aberman, the co-ordinator of Earthlife Africa, said the organisation would monitor the public participation process.

"If we feel it is necessary to take action, whether by protest or by litigation, we will do so. This is a signal from the government to put in nuclear power stations all over South Africa," she said.

The Eskom Board has approved the investigation of a nuclear capacity of up to 20 000MW in the next 20 years,

construction of the station could start in 2009/2010, with the first unit being commissioned in 2016.

But Aberman said Pearly Beach was a pristine site devoid of the infrastructure needed to build a plant the size of Koeberg.

"A pressurised water reactor will have a far greater impact than a pebble bed modular reactor, which requires a smaller piece of land," she said.

In 2005, Eskom spokeswoman Carin de Villiers confirmed that Eskom had bought the 1 838ha farm Bantamsklip

A feasibility study on possible sites for a pebble bed modular reactor found that two threatened vegetation species occur in Bantamsklip, as well as the one of South Africa's rarest endemic coastal breeding bird species, the African black oystercatcher.

Eskom had not replied to questions by the time of going to press.

Elrina Versfeld, chairman of the Pearly Beach Conservation Society, said residents were being urged to take part in public meetings to be held in June.

She said the construction of

Figure 7-7: Article in *The Mercury*, 29 May 2007

Erwin announces plan for 14 pebble-bed reactors

HERALD CORRESPONDENT

PUBLIC Enterprises Minister Alec Erwin revealed yesterday that the state power utility Eskom was planning to open as many as 14 pebble-bed modular reactors (PBMRs) around the country to combat the country's dire electricity shortage.

This statement was according to a written reply to a parliamentary question.

He told Lance Greyling of the Independent Democrats that Eskom had submitted applications for an environmental authorisation and a nuclear installation licence respectively, for a PBMR demonstration

power plant to be constructed on the Koeberg site outside Cape Town. "The plan is to order 14 units, but decisions regarding future PBMR units are dependent on the PBMR demonstration power plant being authorised, constructed and successfully commissioned," said Erwin. — I-Net Bridge

Eskom 'must halt nuclear investigation at Thyspunt'

■ Power utility needs to prove it can evacuate population in emergency

Guy Rogers

ENVIRONMENT & TOURISM EDITOR

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ESKOM must halt all investigations into the feasibility of Thyspunt as a nuclear site until it has proved that it can evacuate 25 000 residents along a single road, in 11 minutes, through the epicentre of a nuclear disaster.

That was the call yesterday from the St Francis Bay Ratepayers' Association whose chairman, Hylton Thorpe, was addressing a meeting about the Thyspunt nuclear project at a Port Elizabeth beachfront hotel.

The "key stakeholder feedback meeting" was hosted by Eskom with the stated aim of capturing all outstanding concerns about the project, which envisages the construction of a 4 000MW pressurised water reactor – more than twice the size of South Africa's only other nuclear power station at Koeberg.

Five possible sites were identified for this development last year when the scoping process started. Two of them are in the Northern Cape, two in the Western Cape – including Koeberg's Duynfontein site – and the last is at Thyspunt, on the Cape St Francis side of Oyster Bay, in the Eastern Cape.

One of the key issues highlighted at the meeting was the finding by Eskom's consultant Arcus Gibb, in their draft scoping report, that the two Northern Cape sites, at Kleinsee and Hondeklip Bay are "unfeasible".



Eco-cost of interfering with an ancient dune system could far exceed any other problems

Arcus Gibb project leader Jaana-Maria Ball said the reasons for this decision related to the lack of a power corridor up the West Coast to which these two sites could be linked.

The financial cost and time lag in having to erect a whole new transmission line system, and then having to connect it to the country's main north-south grid, were two of the reasons for the decision, she said.

She said the environmental cost of having to install all this new infrastructure had also weighed against the two Northern Cape sites.

Trudy Malan, operations manager of the Cape St Francis seabird rehabilitation centre Ajubatus, contested Ball's environmental argument, saying detailed studies first needed to be completed at all the sites before such a judgment had any value.

The eco-cost of interfering with an ancient dune system or causing marine pollution at Thyspunt could far exceed any other problems elsewhere, she noted.

Thorpe said his association was concerned that Eskom "continues to use the everything keeps going right type of slogan", focusing only on the best-case scenario and failing to probe the worst-case scenario.

He said the existence of the Thyspunt bypass headland-dunefield was

proof of a major factor that seemed to have been ignored by the consultants.

"With a bypass headland dunefield, wind picks up sand from the beach and transports it overland, returning it to the sea on the eastern side. It is an indication of consistent wind direction and very high wind energy," he noted.

"In the case of the St Francis area, these winds blow from a south-westerly direction, directly from Thyspunt towards Sea Vista and St Francis Bay, which is what they've been doing for thousands of years."

The distance from Thyspunt to the township of Sea Vista is about 11km "so, in the event of an accident, when a 60km south-wester is blowing, as is not uncommon, the people of Sea Vista would have 11 minutes in which to evacuate their homes and shacks."

"It is estimated that there are in excess of 5 000 people living in Sea Vista, and very few even have bicycles, let alone cars."

There is also only one escape route, the road to Humansdorp, to serve the five communities of Rebelsrus, Mostert's Hoek, Cape St Francis, Sea Vista and St Francis Bay.

The population of these over peak holiday seasons could be as high as 25 000, and growing every year, he said.



HAVE YOUR SAY

Text us your view at: 32971

To text us, write news, followed by your message.

Figure 7-8: Article in *The Herald*, 6 March 2008

7.3.4 Obtaining comment – Scoping Phase

Initial comment was based on the BID and verbal explanations of the proposed project during meetings. I&APs could contribute comment in writing by either completing and returning comment sheets to the Public Participation Office, or attending public meetings, or through one-on-one interactions and focus group meetings.

(a) Written contributions

Numerous² written submissions were received either by mail, email or fax during the Scoping Phase up to August 2008. Issues were captured in an Issues and Response Report (IRR) that accompanied the Final Scoping Report. Submissions referred to as “lengthy submissions” also accompanied the categorised IRR and have been included in the Draft EIR.

(b) One-on-one interactions

One-on-one interactions were held by various team members with individuals and representatives of relevant sectors prior and after scheduled meetings. These interactions were particularly useful in identifying key issues and other relevant stakeholders.

Any information provided by I&APs during an interaction was provided to the Public Participation Team to capture on record and/or utilise it for stakeholder referrals and information dissemination.

(c) Meetings (Public, Open Days, Focus Group, Key Stakeholder and Authorities)

A combined total of 50 meetings (**Tables 7-3a to 7-3e**) with stakeholders were convened between June 2007 and March 2008, attended by over 1 700 I&APs. Records of all these meetings were appended to the Draft and Final Scoping Reports. All meetings took place in the language of choice of participants.

Subsequent to each meeting, minutes were distributed to attendees to verify that their contributions have been captured accurately. Information presented at the meetings was provided to all I&APs upon request and by making it available on Eskom website www.eskom.co.za/eia. Additional requests for project information were also addressed by making this information available on the website as and when requested by I&APs. **Figures 7- to 7-12** show some of the meetings held during the Scoping Phase.

7.3.5 Issues and Response Report

Issues raised during the Scoping Phase were captured in an Issues and Response Report, appended to the Draft Scoping Report (January 2008).

Issues raised during the Draft Scoping Report review were included in the Issues and Response Report appended to the Final Scoping Report (August 2008).

The Issues and Response Report included all comments raised at the various meetings and I&AP interactions as per **Tables 7-3a to 7-3e**.

² It is not the intention of this chapter to quantify submissions received during the Scoping Phase. However, all submissions have been captured in the relevant Issues and Response Reports of the Draft Scoping Report and Final Scoping Report, and filed both as hard and electronic copies for record keeping purposes.

7.3.6 Draft Scoping Report availability and Public Review

A letter was distributed to all registered I&APs informing them of the availability of the report. An Executive Summary (available in both English and Afrikaans) of the Draft Scoping Report accompanied all personalised letters. In addition, executive summaries were made available at all Public Open Days and Key Stakeholder Feedback Meetings.

Public Open Days were held to present and obtain comment on the Draft Scoping Report. **Tables 7-3a to 7-4e** list these meetings, their times and venues. The main purpose of the Public Open Days was to reflect back to the public in terms of the following:

- Has the EIA team accurately captured issues raised by the public during Scoping?
- Has the EIA team understood the issues?
- Has the EIA properly contextualised and interpreted the issues?
- Are the proposed specialist studies going to provide answers to the questions raised by the public?

Assistance, where required, was provided to I&APs to facilitate understanding of the Draft Scoping Report so that I&APs had the opportunity to provide meaningful comment.

Both the draft and Final Scoping Reports were made available as presented in **Table 7-4**.

Table 7-3a: Public Meetings held during the Scoping Phase

No.	Province	Area	Venue	Date
1	Northern Cape	Houhoop	Houhoop Shed	06 June 2007
2		Koingnaas	Castle Hill	06 June 2007
3		Kleinsee	Blue Diamond	06 June 2007
4	Western Cape	Atlantis	Saxonsea Hall	08 June 2007
5		Duynfontein	Atlantic Beach Golf Estate	08 June 2007
6		Milnerton	Summergreens Hall	08 June 2007
7	Eastern Cape	Oyster Bay	Oyster Bay Hall	11 June 2007
8		Humansdorp	Humansdorp Community Centre	11 June 2007
9		Jeffery's Bay	Jeffreys Bay Hall	12 June 2007
10	Western Cape	Gansbaai	Pretorius Hall	13 June 2007
11		Pearly Beach	Pearly Beach Club	13 June 2007
12		Elim	Elim Church Hall	13 June 2007
13	Northern Cape	Komaggas	Komaggas Community Hall	11 July 2007
14		Houhoop	Houhoop Shed	12 July 2007
15	Eastern Cape	St Francis Bay	St Francis Links	25 July 2007
16		Sea Vista	Sea Vista Community Hall	26 July 2007
17	Western Cape	Atlantis	Thusong Service Centre	06 August 2007
18		Milnerton	Milnerton Golf Club	07 August 2007
19		Hermanus	Overstrand Municipality Auditorium	13 August 2007

No.	Province	Area	Venue	Date
20		Struisbaai	Struisbaai North Community Hall	14 August 2007
21	Northern Cape	Nababeep	Nababeep Junior Saal	09 October 2007
22		Port Nolloth	Port Nolloth Stadsaal	10 October 2007
23		Spoegrivier	Spoegrivier Gemeenskapsaal	11 October 2007
24		Soebatsfontein	Soebatsfontein Gemeenskapsaal	11 October 2007
25		Hondeklipbaai	Hondeklipbaai Gemeenskapsaal	11 October 2007

Table 7-3b: Meetings - Key Stakeholder Workshops

No.	Province	Area	Venue	Date
1	Eastern Cape	Port Elizabeth	The Beach Hotel	27 July 2007
2	Northern Cape	Kimberley	Kalahari Lodge	31 July 2007
3	Northern Cape	Springbok	Kokerboom Motel	09 October 2007
4	Western Cape	Durbanville, Cape Town	Durbanville Golf Course	13 August 2007

Table 7-3c: Meetings - Focus Group Meetings

No.	Province	Area	Stakeholder Group	Date
1	Western Cape	Cape Town	DEA, DEA&DP and DTEC	14 June 2007
2	Eastern Cape	St Francis Bay	Thyspunt Anti-Nuclear Group	26 July 2007
3	Eastern Cape	Port Elizabeth	DEDEA	27 July 2007
4	Western Cape	Cape Town	Cape Town City Council	06 August 2007
5	Eastern Cape	Port Elizabeth	Eastern Cape Regional Coastal Working Group	30 August 2007
6	Eastern Cape	Jeffrey's Bay	Kouga Local Municipality	30 August 2007
7	Eastern Cape	Port Elizabeth	Coega Development Corporation	31 August 2007

Table 7-3d: Public Meetings and Public Open Days

No.	Province	Area	Day and Date	Venue	Time
1	Northern Cape	Springbok	Tuesday, 12 February 2008	Kokerboom Motel	14h30 – 18h30
2		Garies	Wednesday, 13 February 2008	Garies Town Hall	15h00 – 19h00
3		Hondeklipbaai	Thursday, 14 February 2008	Community Hall	15h30 – 19h30
4	Western Cape	Duynfontein	Tuesday, 19 February 2008	Koeberg Conservation Centre	15h00 – 19h00
5		Cape Town Central	Wednesday, 20 February 2008	Vineyard Hotel, Newlands	15h00 – 19h00
6		Gansbaai	Tuesday, 26 February 2008	Pretorius Hall	15h00 – 19h00
7		Pearly Beach	Wednesday, 27 February 2008	Pearly Beach Club	15h00 – 19h00
8		Bredasdorp	Thursday, 28 February 2008	Glaskasteel Hall	15h00 – 19h00
9	Eastern Cape	Oyster Bay	Monday, 03 March 2008	Oyster Bay Hall	15h00 – 19h00
10		St Francis Bay	Tuesday, 04 March 2008	St Francis Links	15h00 – 19h00
11		Port Elizabeth	Wednesday, 05 March 2008	Kelway Hotel	14h30 – 18h30

Table 7-3e: Key stakeholder and Authorities Feedback Meetings

No.	Province	Area	Day and Date	Venue	Time
1	Northern Cape	Springbok	Tuesday, 12 February 2008	Kokerboom Motel	11h00 – 14h00
2	Western Cape	Durbanville	Thursday, 21 February 2008	Durbanville Golf Club	09h30 – 12h30
3	Eastern Cape	Port Elizabeth	Wednesday, 05 March 2008	Kelway Hotel	11h00 – 14h00



Figure 7-9: Public Meeting at Duynefontein



Figure 7-10: Public Meeting at Gansbaai, Southern Cape



Figure 7-11: Public Open Day at Pearly Beach



Figure 7-12: Discussion session with Hondeklipbaai residents at a Public Open Day

Table 7-4: Availability of the Draft and Final Scoping Reports

Area	Venue	Street Address
EASTERN CAPE		
Humansdorp	Humansdorp Public Library	9 Vureau Street
Humansdorp	Ukhanyiso Public Library	Nanto Street, Humansdorp
Jeffery's Bay	Jeffrey's Bay Public Library	33 Da Gama Road
Jeffery's Bay	Jeffrey's Bay Business Forum	Sandown Buildings, Jeffrey Street
Jeffery's Bay	Jeffrey's Bay Tourism Office	De Gama Road, Shell Museum Complex, Jeffrey's Bay
Kareedouw	Kareedouw Public Library	5 Keet Street
Oyster Bay	Oesterbaai Eiendome	6 Tornyn Street, Oyster Bay
Plettenberg Bay	Plettenberg Bay Public Library	Building No 29, Spar Centre, Marine Drive
St Francis Bay	St Francis Bay Public Library	No 1 Assisi Drive, St Francis Bay
St Francis Bay	St Francis Bay Tourism Centre	1 Lyme Road South, St Francis Bay
Kruisfontein	Kruisfontein Public Library	Cucido Street, Kruisfontein
NORTHERN CAPE		
Kamieskroon	Succulent Karoo Knowledge Centre	Charlotte Street, Kamieskroon
Kleinsee	Houthoop Shed	Houthoop Guest Farm, Komaggas Road
Komaggas	Komaggas Advice Office	Van den Heever Street
Port Nolloth	Richtersveld Public Library	Main Road, Port Nolloth
Springbok	Springbok Public Library	Makua Street
WESTERN CAPE		
Cape Town	Arcus GIBB (Cape Town Offices)	14 Kloof Street, Cape Town
Atlantis	Atlantis Public Library	Civic Centre, Grosvenor Avenue
Baardskeerdersbos	Baardskeerdersbos Winkel	22km from Gaansbaai on the Elim Road
Beaufort West	Beaufort West Public Library	15 Church Street
Bredasdorp	Bredasdorp Public Library	Church Street, Bredasdorp
Cape Town	Cape Town Central Library	City Hall, 2 nd Floor, Darling Street
Bredasdorp	Cape Agulhas Tourism Bureau, Bredasdorp	51 Long Street, Bredasdorp
Clanwilliam	Clanwilliam Public Library	Main Street, Clanwilliam
Elim	Elim Library Depot	3 Waterkant Street, Elim
Gansbaai	Gansbaai Public Library	Main Road, Municipal Buildings
Hermanus	Hermanus Public Library	Civic Centre, Magnolia Street
Koeberg	Koeberg Public Library	Merchant Walk, Duynefontein
Laingsburg	Laingsburg Public Library	Van Riebeck Street
Malmesbury	Malmesbury Public Library	Voortrekker Road
Milnerton	Milnerton Public Library	Pienaar Road
Grabouw	Palmiet Pumped Storage Scheme, Visitors Centre	Rockview Dam Road, off N2 South, Grabouw
Piketberg	Piketberg Public Library	13 Church Street
Vredenburg	Vredenburg Public Library	12 Main Street
Bredasdorp	Welverdiend Public Library	Ou Meule Street, Bredasdorp
Atlantis	Wesfleur Library, Atlantis	Wesfleur Centre, Atlantis
Wolvengat	Jenny's Handelaar	Main Road, Wolvengat
GAUTENG		
Bryanston	Bryanston Public Library	Cnr New & Pyne Streets, Bryanston
Rosebank	Rosebank Public Library	8 Keyes Avenue, Rosebank
Blackheath	Blackheath Public Library	Heathway Centre, Blackheath
Johannesburg	Johannesburg Public Library	Dr Beyers Naude Square, Cnr Market & Fraser Streets

7.4 Summary of issues raised

The contributions received to date (mainly from the Scoping Phase) from a wide range of stakeholders have assisted greatly to enrich the EIA process. A range of issues was raised as reflected in the Issues and Response Report that accompanied the Draft and Final Scoping Reports, in the extensive written comments and proceedings of public and stakeholder meetings. These issues guided the Terms of Reference for the specialist studies.

In order to facilitate integration, issues raised were grouped into categories. Initially, issues raised were grouped into 22 categories as shown in **Table 7-5**. During the later stages of scoping, issues which were related to the integration of the transmission infrastructure to the Thyspunt and Bantamsklip sites were also raised and included in this EIA, resulting in the issues being grouped into 24 categories.

Table 7-5: Summary of issues raised

No	Category
1	EIA (technical and public participation)
2	Waste Disposal (Nuclear)
3	Financial/Economic
4	Alternative Generation Options (including renewables)
5	Safety and emergency situations
6	Site specific matters (a) Brazil (b) Schulpfontein (c) Duynefontein (d) Bantamsklip (e) Thyspunt
7	Compatibility with current IDP planning and provincial SDPs
8	Ancillary infrastructure (roads, construction camps, etc)
9	Vegetation (site specific) and biodiversity
10	Employment/training
11	Archaeology, paleoecology and cultural heritage
12	Marine effects
13	Property effects (values)
14	Construction impacts
15	Uranium source/mining
16	Social/health
17	Agricultural effects
18	Nuclear technology
19	Other processes - NNR and Transmission Lines EIA
20	Tourism
21	Visual Impact
22	Water Resources
23	Comments raised as part of the Thyspunt Transmission Powerline Integration EIA
24	Comment raised as part of the Bantamsklip Transmission Powerline Integration EIA

Although issues raised were specific to the proposed sites, there are some issues that were common to all sites. These related to the following:

- Financial implications of the proposed nuclear power stations (including economic implications to the consumer);
- Economic impact of all phases of a nuclear power station including decommissioning;
- Economic impact of restrictions on land use that will result from the siting of a nuclear reactor around a particular site;
- Risks associated with human health including the possibility of a catastrophic incident;
- The extent to which the local conditions have been taken into account in determining the Emergency Planning Zones;
- Concerns around current arrangements for waste disposal (including high-level nuclear waste);
- The importance and ecological sensitivity of the proposed sites;
- Concerns about nuclear technology in general; and
- Consideration of alternative electricity generation options, with a specific emphasis on renewable energy.

All issues that have been raised have reflected the concerns of a wide range of different people, groups and organisations, special interest groups and private individuals. In order to understand the context within which the issues were raised, the reader is encouraged to refer to the detailed IRRs (**Appendix D8**), which accompany this Draft EIR,

It is also worth mentioning that the majority of I&APs who have been actively involved to date in the EIA process, are those who are opposed to nuclear technology in principle.

7.5 Public Participation during the Impact Assessment Phase

7.5.1 Public review of the Draft EIR and EMP

Public participation during the Impact Assessment Phase of the EIA focuses on:

- A review of the findings of the EIA, presented in the Draft Environmental Impact Report and its accompanying specialist reports; and
- Distribution of relevant reports and EIA information to the public.

7.5.2 Announcing opportunity to comment on the findings of the EIA

All I&APs on the project database will be notified via personalised letters of the Draft EIR and EMP availability. All reports, including technical specialist reports, have been uploaded on the Eskom website: www.eskom.co.za/eia under "Nuclear-1" link.

7.5.3 Public meetings

The venues of public meetings to be held in the Eastern and Western Cape Provinces to present the findings on the Draft EIR are indicated in **Table 7-6**. Notices of dates for these meetings appeared in press advertisements and in individual notifications sent to I&APs. Public meetings will be held during the comment period for the Draft EIR.

Table 7-6: Public meetings to be held during the EIA Phase

Site	Venue
Duynefontein	Tusong Centre Community Hall, Atlantis, West Coast
	Vineyard Hotel, Newlands (Southern Suburbs, Cape Town)
	Atlantic Beach Golf Estate, Melkbosstrand, West Coast
Bantamsklip	Venue TBC, Gansbaai / Hermanus
	Pearly Beach Club, Pearly Beach
	TBC, Bredasdorp
Thyspunt	Oyster Bay Hall, Oyster Bay
	TBC, St. Francis Bay / Cape St. Francis
	Humansdorp Country Club, Humansdorp
	Sea Vista Community Hall, Sea Vista

7.5.4 Distribution of reports for public comment

The Draft EIR and EMP will be made available at various public places as outlined in **Table 7-7**.

Table 7-7: Venues where the Draft EIR will be available for public review

Area	Venue	Street Address
EASTERN CAPE		
Humansdorp	Humansdorp Public Library	9 Vureau St, Humansdorp
Jeffreys Bay	Jeffreys Bay Public Library	33 da Gama Road
Kareedouw	Kareedouw Public Library	5 Keet Street
Kruisfontein	Kruisfontein Public Library	Cucido St
Oyster Bay	Oesterbaai Eiendomme	No. 6 Tornyn Street
Plettenberg Bay	Plettenberg Bay Public Library	Building No. 29, SPAR Centre, Marine Drive
St Francis Bay	St. Francis Bay Public Library	1 Assisi Drive
WESTERN CAPE		
Atlantis	Atlantis Public Library	
Atlantis	Atlantis Public Library	Civic Centre, Grosvenor Ave. Avondale
Cape Town	Arcus GIBB	Arcus GIBB Building, 14 Kloof Street
Cape Town	Table View Public Library	Table View Library, Birkenhead Road, Table View
Koeberg	Koeberg Public Library	Merchant Walk, Duynefontein
Milnerton	Milnerton Public Library	Pienaar Road, Milnerton
Bredasdorp	Bredasdorp Public Library	Church Street, Bredasdorp
Elim	Elim Library Depot	3 Waterkant Street, Elim
Gansbaai	Gansbaai Library	Municipal Buildings, Main Road, Gansbaai
Baardskeerdersbos	Baardskeerdersbos Winkel	Baardskeerdersbos
Hermanus	Hermanus Public Library	Civic Centre, Magnolia Street
Wolverdind	Wolverdind Public Library	Ou Meule Street (Opp. Hope In

Area	Venue	Street Address
		Café), Welverdiend
Wolvengat	Wolvengat Community	Jenny's Handelaar, Main Road, Wolvengat
GAUTENG		
Johannesburg	Arcus GIBB Sunninghill Office	14 Eglin Road, Sunninghill, Johannesburg

The reports will be available for comments for the duration of the comment period for the Rraft EIR and EMP from 19 February 2010 to 26 April 2010 (inclusive of both dates). The comment period is 66 days long.

7.5.5 Final EIR and accompanying reports

The Draft EIR and accompanying reports will be amended, where appropriate, following comment received during the public review period. The reports will then be submitted to the competent authority, namely the DEA, for consideration and decision-making.

All registered stakeholders will be notified of this activity via a personalised letter and will therefore have the opportunity to access submitted final reports on the website.

7.5.6 Notification of authority decision

Stakeholders will be advised in writing of the authority decision on the EIA, in other words, on whether environmental authorisation has been granted to the project or not and the conditions of the authorisation, if positive. Stakeholders will also be advised that the decision may be appealed, and will be provided with guidance on how to do so.

7.6 Impact Assessment

7.6.1 Introduction

The purpose of the EIA Phase of an EIA is as follows:

- Address issues that have been raised during the Scoping Phase;
- Assess alternatives to the proposed activity in a comparative manner;
- Assess all identified impacts and determine the significance of each impact; and
- Formulate mitigation measures.

This section outlines the methodology (or Plan of Study for EIA – approved by the DEA on 19 January 2010) adopted for the Impact Assessment phase of the EIA process. The EIA Phase entails the integration of the specialist studies to form this comprehensive EIR.

Relevant mitigation measures have been used to compile an associated Environmental Management Plan (EMP). In addition, this section records the specific terms of reference and impact assessment methodology that were utilised by the specialist team.

7.6.2 Plan of Study for EIA

Numerous acceptable approaches and methodologies exist by which the above purpose can be achieved. The legislation in South Africa, including the guideline documents published in support thereof, does not provide a specific methodology for the assessment of impacts.

Rather, an assessment framework is provided within which environmental assessment practitioners are expected to structure a project-specific assessment methodology. This assessment framework recognises that there are different methodologies available for assessing the impact of a development but that the specific methodology selected must provide for the following³:

- A clear process for impact identification, prediction and evaluation;
- Specification of impact identification techniques;
- Criteria for evaluating the significance of impacts;
- Design of mitigation measures to address impacts;
- Defining types of impacts (direct, indirect or cumulative); and
- Specification of uncertainties.

7.6.3 Specialist Studies

As a result of the nature and scale of the proposed project and the potential impacts on the environment, and resulting from the comments received during the Scoping Phase, various specialist studies were identified for the EIA process. The comments raised during the public participation process described above, and which were recorded in the Issues and Response Report (IRR), were used to develop the Terms of Reference provided to the specialist teams. In addition, independent specialists reviewed the specialist reports prepared for this process to ensure a high standard of technical quality.

The specialists appointed (**Table 7-8**) were required to outline their proposed methodology, and clearly identify assumptions and sources of information. The knowledge of local people was incorporated in the study, where relevant. The description of the study approach included a short discussion of the appropriateness of the methods used in the specialist study in terms of local and international trends with respect to the specific practice. The key components outlined in the sections that follow formed part of the specialist Terms of Reference.

Table 7-8 summarises the studies that were initiated during the Scoping Phase and continued during the EIA Phase.

³ DEAT (2005) *Guideline 3: General Guide to the Environmental Impact Assessment Regulations, 2005, Integrated Environmental Management Guideline Series*, Department of Environmental Affairs and Tourism (DEAT), Pretoria

Table 7-8: EIA specialist team members and their fields of expertise

Task/ Discipline/ Local Involvement	Team Leaders	Organisation
Support Team (Reviewers, Advisors and Consultants)		
Nuclear Specialist Reviewers	Jean-Marc Lavanchy	Colenco Power Engineering Ltd., Switzerland ⁴
	Lucien Teunckens	
Peer (Technical and EIA Process) Reviewer	Mark Wood	Mark Wood Consultants ⁵
Legal Advisor	Nicholas Smith	Nicholas Smith and Associates
PPP Consultant	Dieter Heinsohn / Bongji Shinga	ACER Africa
Technical Specialists		
Geology and Seismic Risk	Urna Hattingh	Council for Geoscience
Geotechnical characteristics		
Flora	Barrie Low	Coastec
Invertebrate Fauna	Peter Hawkes	AfriBugs ⁶
Vertebrate Fauna	Dr. James Harrison	UCT Avian Demography Unit
Hydrology	Peter Rosewarne	SRK Consulting
Geo-hydrology		
Fresh Water Supply		
Freshwater Ecology (Wetlands)	Dr. Liz Day	The Freshwater Consulting Group
Oceanography	Rhys Giljam	WSP Environmental Consultants ⁷
Marine Biology	Prof. Charles Griffiths / Tamara Robinson	UCT Marine Biology Research Institute
Air Quality and Climate Assessment	Lucian Burger / Prof. Hannes Rautenbach	Airshed Planning Professionals and University of Pretoria ⁸
Economic Impact Assessment	Gavin Maasdorp	Imani Development: Economic, Trade and Development Consultants
Socio-Economic Impact Assessment	Alewijn Dippenaar	Octagonal Development ⁹
Human Health Risk Assessment	Willie Van Niekerk	Infotox
Agricultural Potential	Gavin Maasdorp	Imani Development: Economic, Trade and Development Consultants
Noise	Adrian Jongens	Jongens Keet and Associates
Visual Impact Assessment	Alan Cave	Bapela Cave Klapwijk
Archaeology and Heritage	Dr. Tim Hart	UCT Archaeology Unit
Tourism Impact Assessment	Gavin Maasdorp	Imani Development: Economic, Trade and Development Consultants
Traffic and Transportation	Andrew Bulman / Nuran Nordien / Yusry Frizlar	Arcus GIBB

(a) Description of the affected environment

A description of the affected environment was provided. The focus of this description was relevant to the specialist's field of expertise. The specialist provided an indication of the

⁴ These reviewers have not yet reviewed the report and will be used if necessary.

⁵ Janet Bodenstien of the Environmental Evaluation Unit of the University of Cape Town was the peer reviewer during the Scoping Phase. Due to her subsequent employment by the City of Cape Town and the resultant potential conflict of interest, she withdrew as peer reviewer in March 2008.

⁶ Dr Mike Picker of University of Cape Town was the specialists for the Scoping Phase.

⁷ Prof. Frank Shillington of the University of Cape Town was the specialist during the Scoping Phase.

⁸ Mark Tadross of the Climate Systems Analysis Group of the University of Cape Town was the specialist during the Scoping Phase.

⁹ Octagonal Development was assisted by Tony Barbour (an independent SIA consultant) and Dr Neville Bews of Neville Bews and Associates.

sensitivity of the affected environment. Sensitivity, in this context, refers to the “ability” of an affected environment to tolerate disturbance, for example, if disturbance of the natural habitat results in the permanent loss of its biodiversity. The affected environment could be categorised as having a “low tolerance” to disturbance and is, therefore, termed a highly sensitive habitat. If, on the other hand, a habitat is able to withstand significant disturbance without a marked impact on its biodiversity, the affected environment could be categorised as having a high tolerance to disturbance (i.e. “low sensitivity” habitat).

(b) Legislation, policies and guidelines

A literature review of legislation, policies and guidelines applicable to the specialist study was conducted, and summarised for each specialist study. The specialists drew on this literature review as necessary when describing the assessment alternatives, and completing the impact identification and assessment. In particular, these documents assisted in providing a basis for determining the significance of potential impacts. In many cases, applicable legislation, policies and guidelines have also been drawn from to provide effective mitigation measures and management recommendations.

(c) Assessment of alternatives

Flowing from the recommendations made and the DEA’s approval of the Scoping Report in 2009, the following sites have been investigated further in the EIA Phase of the EIA process:

- Duynefontein;
- Bantamsklip; and
- Thyspunt.

(d) Impact identification and assessment

The specialists were required to make a clear statement, identifying the environmental impacts of the construction, operation, decommissioning and management of the proposed development. As far as possible, the specialist had to quantify the suite of potential environmental impacts identified in the study and assess the significance of the impacts according to the criteria set out in **Table 7-10**.

Each impact was assessed and rated as per the methodology described in **Section 7-7** below. The impact assessment provided an evaluation of the significance of each of the three phases of the project (i.e. design, construction and operational phases). The assessment of the data where possible was based on accepted scientific techniques, failing which the specialist made informed judgements based on his/her professional expertise and experience.

(e) Mitigation measures

Feasible and practical mitigation measures were recommended in order to minimise negative impacts and to enhance the benefits of positive impacts. The mitigation measures further addressed:

- **Mitigation objectives: The level of mitigation being targeted?**
For each identified impact, the specialists provided mitigation objectives, which would result in a measurable reduction of the impact. Where limited knowledge or expertise exists on such mitigation, the specialists consulted with other specialists on the team failing which the specialists again made a judgement call based on his/her professional experience.
- **Recommended mitigation measures**
For each impact the specialist recommended practicable mitigation actions that can measurably affect the significance rating. The specialists also identified management actions that could enhance the condition of the environment. Where no mitigation is considered feasible, this was stated and reasons provided.

- **Effectiveness of mitigation measures**
The specialists provided quantifiable standards (performance criteria) for reviewing or tracking the effectiveness of the proposed mitigation actions, where possible, as this will be utilised when drafting the monitoring component of the EMP.
- **Recommended monitoring and evaluation programme**
The specialists recommended an appropriate monitoring and auditing programme, which would be able to track the efficacy of the mitigation objectives. Each environmental impact was assessed before and after mitigation measures are implemented in order to show how effective or not mitigation will be. The management objectives, design standards etc., which, if achieved, can eliminate, minimise or enhance potential impacts or benefits were expressed as measurable targets where possible.

Once the above objectives are stated, feasible management actions, which can be applied as mitigation, were provided. A duplicate column in the impact assessment tables indicated how the application of the proposed mitigation or management actions has reduced the impact.

7.6.4 Specialist Reviews

All reports produced during the EIA Phase of the EIA have been peer reviewed for internal quality control purposes, prior to the review by I&APs and Authorities. These reviews provided the EAP with an additional quality check, ensuring that all reports are objective and scientifically accurate. A comprehensive review panel was established, which included specialists in the respective specialist fields for all specialist studies (**Table 7-9**). Further peer reviews include legal review specialists, process review specialist as well as a nuclear review specialist.

Table 7-9: Peer review team

Discipline	Reviewer	Organisation
Geology	Tim Partridge (late)	University of the Witwatersrand
Seismology	Johan de Beer	CSIR (retired)
Geohydrology	Christine Colvin	CSIR
Geotechnical Assessment	Jan Wuim	Stellenbosch University
Botanical Impact Assessment	Prof. Roy Lubke	Rhodes University
Fauna (Invertebrates)	Dawid Jacobs	University of Pretoria
Fauna (Vertebrates)	Tony Williams	Cape Nature Conservation
Hydrology	Arthur Chapman	Council for Scientific and Industrial Research
Freshwater Supply	Allan Bailey	SSI
Freshwater Ecology / Wetlands	Paul da Cruz	SIVEST Environmental Division
Oceanography	Eddie Bosman	University of Stellenbosch
Marine Biology	Prof. George Branch	UCT Zoology Department (retired)
Air Quality and Climatology	Donald Lush	2055218 Ontario Limited
Social	Greg Huggins	Water for Africa
Economic Impact	Randall Gross	African Development Economic Consultants
Human Health Risk Assessment	Michael Holiday	Michael Holiday and Associates
Agricultural Impact Assessment	Garry Paterson	Agricultural Research Council

Discipline	Reviewer	Organisation
Noise Impact Assessment	François Malherbe	François Malherbe Acoustic Consulting cc
Visual Impact Assessment	John Drummond	John Drummond Landscape Architects
Archaeology and Heritage	Prof. John Parkington	UCT Archaeology Unit
Tourism	Dave Blair	SIVEST Environmental Division
Accessibility and Transport	Stef Naude	HHO Africa
Emergency Response	Jeff Lafortune	International Safety Research
Site Control/Safety	Shane Mothaloga	Malepe Consulting
Geomorphology	Prof. Isak Rust	Earth Science Consulting

The peer reviewers were required to carry out the following during the Impact Assessment Phase of the EIA:

- Assess the relevant specialist study report in terms of its fulfilment of the Terms of Reference set;
- Consider whether the report is entirely objective;
- Consider whether the report is technically, scientifically and professionally credible;
- Consider whether the method and the study approach is defensible;
- Identify whether there are any information gaps, omissions or errors;
- Consider whether the recommendations presented are sensible and present the best options;
- Consider whether there are alternative viewpoints around issues presented in the report and if these are clearly stated;
- Consider whether the style of the report is written so as to make it accessible to non-specialists, technical jargon is explained and impacts are described using comparative analogies where necessary; and
- Report on whether normal standards of professional practice and competence have been met.

A Review Report template was provided for use during completion of the above assessment. The peer reviewer was required to complete all sections of the Review Report template, with due reference to the:

- Guideline for the review of the specialist input in EIA processes (CSIR and DEAD&P, 2005);
- DEAT guideline for Review in EIA, Integrated Environmental Management Information Series (DEAT, 2004);
- Terms of Reference provided to the relevant specialist author; and
- Final Scoping Report and Issues and Response Report contained therein.

The peer review team's *Curricula Vitae* can be found in **Appendix E1**.

7.7 Impact Assessment Methodology

The objective of the assessment of impacts is to identify and assess all the significant impacts that may arise as a result of the NPS. In the Impact Assessment Phase, additional impacts were identified through the various specialist studies to be undertaken and through ongoing I&AP consultation.

In order to assess impacts that relate to more than one element of the environment (e.g. visual quality and land use), certain specialists were likely to require information obtained from other specialists. An integration workshop was therefore held to ensure that all specialists and the applicant have a common understanding of the receiving environment and issues related to the project are addressed in a synergistic manner. For each of the two main project phases (construction and operation), the existing and potential future impacts and benefits (associated only with the proposed development) were described using the criteria listed below.

7.7.1 Impact Assessment Rating Criteria

In accordance with Government Notice R.385, promulgated in terms of Section 24 of the NEMA and the criteria drawn from the IEM Guidelines Series, Guideline 5: Assessment of Alternatives and Impacts, published by the DEAT (April 1998) specialists were required to describe and assess the potential impacts in terms of the following criteria:

(a) Nature of the impact

This is an evaluation of the type of effect the construction, operation and management of the proposed NPS development would have on the affected environment. This description included what will be affected and the manner in which the affect will transpire.

(b) Extent of the impact

The specialist described whether the impact will be: local (limited to the site and its immediate surroundings); or whether the impact will be at a regional or national scale.

(c) Duration of the impact

The specialist indicated whether the lifespan of the impact would be short-term (0-5 years), ie. within the construction phase of the project, medium-term (6-10 years), long-term (>10 years) or permanent.

(d) Intensity

This was a relative evaluation within the context of all the activities and the other impacts within the framework of the project. Does it destroy the impacted environment, alter its functioning, or render it slightly altered? The specialist study attempted to quantify the magnitude of the impacts and outline the rationale used.

(e) Consequence

The consequence of the potential impacts was determined according to the main criteria for determining the consequence of impacts, namely the extent, duration and intensity of the impacts.

(f) Probability of occurrence

The specialist described the probability of the impact actually occurring and was further described as improbable (low likelihood), probable (distinct possibility), highly probable (most likely) or definite (impact will occur regardless of any prevention measures).

(g) Legal requirements

The specialist identified and listed the relevant South African legislation and permit requirements pertaining to the development proposals. He/she provided reference to the procedures required to obtain permits and describe whether the development proposals contravene the applicable legislation.

(h) Degree of confidence in predictions

The specialist stated the degree of confidence (low, medium or high) there is in the predictions made for each impact, based on the available information and level of knowledge and expertise as well as the associated implications.

(i) Significance

The overall significance of the impacts was defined based on the result of a combination of the consequence rating and the probability rating, as defined above. The significance defines the level to which the impact will influence the proposed development and/or environment in any way. It determines whether mitigation measures need to be identified and implemented or whether the resource is irreplaceable and/or the activity has an irreversible impact.

(j) Cumulative impacts

Incremental impacts of the activity and other past, present and future activities on a common resource.

(k) Irreversibility

The ability of the impacted environment to return to its pre-impacted state once the cause of the impact has been removed.

(l) Irreplaceability

The ability of an environmental aspect to be replaced, should it be impacted on.

(m) Mitigation measures

The development of mitigation measures in order to reduce the significance of the impact.

Table 7-10 provides a summary of the criteria and the rating scales that were used. The assignment of ratings has been undertaken based on past experience of the EIA team, the professional judgement of the specialists as well as through research. Subsequently, mitigation measures have been identified and considered for each impact and the assessment repeated in order to determine the significance of the residual impacts (the impact remaining after the mitigation measure has been implemented).

Table 7-10: Impact assessment criteria and rating scales

Criteria	Rating Scales	Notes
Nature	Positive	This is an evaluation of the type of effect the construction, operation and management of the proposed NPS development would have on the affected environment.
	Negative	
	Neutral	
Extent (the spatial limit of the impact)	Local	The impact will be limited to the site and its immediate surroundings
	Regional	Impact will be felt beyond the site, up to a provincial level
	National	The impact will be felt up to a national level or beyond

Criteria	Rating Scales	Notes
Intensity (the severity of the impact)	Low	Where the impact affects the environment in such a way that natural, cultural and social functions and processes are minimally affected
	Medium	where the affected environment is altered but natural, cultural and social functions and processes continue albeit in a modified way; and valued, important, sensitive or vulnerable systems or communities are negatively affected
	High	Where natural, cultural or social functions and processes are altered to the extent that the impact will temporarily or permanently cease; and valued, important, sensitive or vulnerable systems or communities are substantially affected
Duration (the predicted lifetime of the impact)	Short-term	0-5 years (i.e. duration of construction phase)
	Medium-term	6-10 years
	Long-term	More than 10 years
	Permanent	Permanent
Consequence (a combination of intensity, extent and duration)	High	<ul style="list-style-type: none"> • High intensity at a national level and endure permanently • High intensity at a national level and endure in the long term • High intensity at a national level and endure in the medium term • High intensity at a national level and endure in the short term • High intensity at a regional level and endure permanently • High intensity at a regional level and endure in the long term • High intensity at a regional level and endure in the medium term • High intensity at a local level and endure permanently • High intensity at a local level and endure in the long term • Medium intensity at a national level and endure permanently • Medium intensity at a national level and endure in the long term • Medium intensity at a national level and endure in the medium term • Medium intensity at a regional level and endure permanently • Medium intensity at a regional level and endure in the long term • Low intensity at a local level and endure permanently • Low intensity at a national level and endure in the long term

Criteria	Rating Scales	Notes
	Medium	<ul style="list-style-type: none"> • High intensity at a regional level and endure in the short term • High intensity at a local level and endure in the medium term • Medium intensity at a national level and endure in the short term • Medium intensity at a regional level and endure in the medium term • Medium intensity at a local level and endure permanently • Medium intensity at a local level and endure in the long term • Medium intensity at a local level and endure in the medium term • Low intensity at a national level and endure in the medium term • Low intensity at a regional level and endure permanently • Low intensity at a regional level and endure in the long term
	Low	<ul style="list-style-type: none"> • High intensity at a local level and endure in the short term • Medium intensity at a regional level and endure in the short term • Medium intensity at a local level and endure in the short term • Low intensity at a national level and endure in the short term • Low intensity at a regional level and endure in the medium term • Low intensity at a regional level and endure in the short term • Low intensity at a local level and endure permanently • Low intensity at a local level and endure in the long term • Low intensity at a local level and endure in the medium term • Low intensity at a local level and endure in the short term
Probability (the likelihood of the impact occurring)	Improbable	Where the impact is unlikely to occur
	Possible	Where the possibility of the impact occurring is very low
	Probable	Where there is a good probability (< 50 % chance) that the impact will occur
	Highly probable	Where it is most likely (50-90 % chance) that the impact will occur
	Definite	Where the impact will occur regardless of any mitigation measures (> 90 % chance of occurring)
Significance (the consequence of the impact occurring coupled with	Very high	<ul style="list-style-type: none"> • very high consequence and possible • very high consequence and improbable • very high consequence and possible
	High	<ul style="list-style-type: none"> • high consequence and possible • high consequence and definite • very high consequence and improbable

Criteria	Rating Scales	Notes
the probability of the impact occurring)	Medium	<ul style="list-style-type: none"> • medium consequence and possible • medium consequence and definite • high consequence and improbable
	Low	<ul style="list-style-type: none"> • low consequence and possible • low consequence and definite • medium consequence and improbable • medium consequence and possible
	Very Low	<ul style="list-style-type: none"> • very low consequence and possible • very low consequence and definite • low consequence and improbable • low consequence and possible
	Insignificant	<ul style="list-style-type: none"> • very low consequence and improbable • very low consequence and possible
Reversibility (ability of the impacted environment to return to its pre-impacted state once the cause of the impact has been removed)	High	Changes to Impacted natural, cultural or social functions and processes will be permanent
	Medium	Impacted natural, cultural or social functions and processes will return to their pre-impacted state within the medium-term to long-term
	Low	Impacted natural, cultural or social functions and processes will return to their pre-impacted state within the short-term
Impact on irreplaceable¹⁰ resources (is an irreplaceable resource impacted upon?)	Yes / No	This defines the ability of an environmental aspect to be replaced should it be impacted on.
Confidence level (the specialist's degree of confidence in the predictions and/or the information on which it is based)	Low	Dependent on the specialist's judgement, based on available information and assessment tools
	Medium	
	High	
Cumulative impacts (incremental impacts of the activity and other past, present and future activities on a common resource)	Low	When there is still significant capacity of the environmental resources within the geographic area to respond to change and withstand further stress
	Medium	If the capacity of the environmental resources within the geographic area to respond to change and withstand further stress is reduced
	High	When the capacity of the environmental resources within the geographic area to respond to change and withstand further stress has been or is close to being exceeded.

¹⁰ A resource for which no reasonable substitute exists, such as Red Data species and their habitat requirements

The criteria used to determine the significance of the residual impacts included:

- The probability of the mitigation measure being implemented; and
- The extent to which the mitigation measure will impact upon the assessment criteria in **Table 7.10**.

The result of the above assessment methodology will be linked to authority decision-making by Authorities in the following manner:

- **Low** – will not have an influence on the decision to proceed with the proposed project, provided that recommended mitigation measures to mitigate impacts are implemented;
- **Medium** – should influence the decision to proceed with the proposed project, provided that recommended measures to mitigate impacts are implemented; and
- **High** – would strongly influence the decision to proceed with the proposed project regardless of mitigation measures.

7.7.2 Determination of preferred alternatives

The utilisation of standard impact assessment rating methodology by all specialists enabled the comparison of the overall significance of the impacts imposed by the NPS at the three alternative sites. Given the nature of the proposed development, and the wide spectrum of specialist studies undertaken for the proposed development, it was necessary to assign values of relative importance to certain specialist studies i.e. certain specialist studies were weighted of higher importance than others. The weighting of specialist studies was agreed at a specialist integration meeting held in November 2009. Criteria used in assigning weighting to different criteria included whether or not legal protection or policy guidelines are in existence for particular resources, the scarcity of resources and whether particular resources are essentially irreplaceable. The weighting is explained in detail in **Chapter 5**. In addition to site alternatives, other alternatives (e.g. access alternatives and fresh water supply alternatives) were also assessed at the specialist integration meeting.

7.7.3 Public review of the Draft EIR and EMP

The Draft Environmental Impact Report and Draft EMP are being made available simultaneously at various public places identified in consultation with I&APs for their review and comment. A 60-day period has been allocated for this review to take place.

As with the Draft Scoping Report, the availability of the Draft EIR and EMP was advertised in the relevant newspapers, in English and Afrikaans as the predominant language. All those I&APs that are included on the project database were sent notification of its availability by letter. All of the above mentioned reports are also hosted on the Eskom website: www.eskom.co.za/eia.

7.7.4 Authority review

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

As mentioned in Chapters 1 and 6 of this report, the NNR and DEA signed a co-operative agreement to agree on the way in which these organs of state need to exercise their decision-making powers in EIAs where radiation issues are a key issue. Thus, with respect to radiological issues, these issues are better placed within the decision-making process of the NNR than within the DEA's decision-making process. The consideration of these same issues in the EIA process could be considered duplication of work that could be considered as unnecessary duplication.

The NNR will provide DEA with a response to specific questions on radiological issues put forward by the DEA. However, the responsibility to decide on the assessment contained in the EIA Report remains with the DEA. The EIA reports and studies thus provide the DEA with comprehensive assessments related to the radiological aspects of the project, amongst others. The process that is undertaken to receive an environmental authorisation is therefore as follows:

- All EIA reports and associated documents are submitted to DEA;
- DEA will send all reports and studies requiring NNR review and comment to the NNR;
- The NNR will submit comments and recommendations on the EIA reports and studies received to the DEA; and
- The DEA will use the NNR comments to inform their decision regarding environmental authorisation.

The EIA reports and studies that have, and will be, submitted to the NNR via the DEA are:

- The Draft Environmental Impact Report and Environmental Management Plan (including all appendices); and
- The Final Environmental Impact Report and Environmental Management Plan (including all appendices).

7.7.5 Authorisation

On receipt of an authorisation (positive or negative), all registered I&APs will be informed of the decision and the associated terms and conditions by the most appropriate method, including normal mail, email and facsimile. 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.