

*Chapter 4:*  
**Approach to the Environmental  
Impact Assessment**

# ***Approach to the Environmental Impact Assessment***

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## 4. APPROACH TO THE ENVIRONMENTAL IMPACT ASSESSMENT

### 4.1 Legal context for this EIA process

The EIA Regulations published in the Government Gazette of 5<sup>th</sup> September 1997, in terms of Sections 21, 22 and 26 of the Environmental Conservation Act (Act 73 of 1989) included a description of activities that require authorization from the relevant authority. These include the following activities:

1. *The construction or upgrading of: ...*

*(e) marinas, harbours, and all structures below the high-water mark of the sea; Marinas, harbours and all structures below the high-water mark of the sea means any facility where vessels arrive, depart from, handling cargo or receive services.*

In pre-application discussions with the national Department of Environmental Affairs and Tourism (DEAT) and the Eastern Cape's Department of Economic Affairs, Environment and Tourism (DEAE&T), it was confirmed that the application should be submitted to the national department.

On the 14<sup>th</sup> June 2006, an Application for Authorization was submitted by Mr Paul Lochner of CSIR to Mr Kooben Samie of national DEAT, on behalf of Transnet Limited. The application was submitted in terms of Section 22 of the Environment Conservation Act, 1989 (Act No. 73 of 1989), in respect of activities identified in terms of Section 21 of the said Act. The application was therefore submitted before the NEMA EIA Regulations came into effect on 3<sup>rd</sup> July 2006.

The key activities listed in the application are:

- (i) Construction and operation of two additional berths at the container terminal, within the existing basin of the Port of Ngqura. This extension of the existing quay wall will result in a total berthing length of 1240m that will be able to berth two mother vessels of 6500 to 8000 TEU (Twenty-foot Equivalent Units) and two feeder vessels of approximately 3500 TEU. The project includes ship-to-shore cranes and associated infrastructure required for the new berths.
- (ii) Construction and operation of an administration craft basin for pilot vessels and tugboats, at the base of the eastern breakwater and within the existing constructed Port basin.

An acknowledgement of receipt of the application was received from DEAT (letter dated 27/06/2006), with the reference number EIA 12/12/20/690 allocated to this application and the instruction provided to proceed to submit a Plan of Study for Scoping that must meet the requirements of Government Notice R.1183 of September 1997.

This led to the Plan of Study for Scoping (dated 5 September 2006) being submitted by CSIR to national DEAT. In a letter signed by Ms M Ntene (Deputy Director: Environmental Impact Evaluation: National and Parastatals) dated 03/10/2006, it was confirmed that the Plan of Study for Scoping has been accepted, subject to a number of requirements specified in this letter. These included:

- need to include layout maps showing the proposed activity in a local context;
- scoping process must be advertised in at least one national print newspaper;
- public participation must seek to obtain comment from key government departments and parastatals; and
- scoping report must include, among others, a description of all issues raised.

## **4.2 Rational for proposing a Scoping Study and not a full EIA**

The overall approach to EIA in terms of the Environment Conservation Act enables a Record of Decision (ROD) to be issued at the end of the Scoping phase. This is possible if the Scoping Study adequately addresses the key issues and alternatives identified, thus providing sufficient information on which the authorities can base an informed decision. By drawing on the wealth of information and experience from EIAs and public consultation in the Coega area, the CSIR team (including Public Process Consultants) and Transnet propose that this Scoping Study can be designed and conducted in a manner that seeks to obtain a Record of Decision at the end of the Scoping phase.

Key factors that make this approach appropriate for this particular application are:

- The considerable volume of existing EIAs, RODs, EMPs and monitoring studies that have been/are being conducted for the Port, IDZ and surrounding area and that provide in-depth understanding of relevant issues and an extensive source of reference information;
- The extensive consultation that has taken place for several EIAs in the Coega area in recent years has led to a degree of “stakeholder fatigue”, thus emphasizing the importance of conducting an efficient process that makes effective use of stakeholders’ time;
- The construction activities are within the bounds of the existing port basin and relatively small in scale compared to the nature of development that has occurred in recent years as part of the overall port development;
- The dredge disposal is intended to utilise the existing dredge disposal site and volumes are considerably lower than already disposed (i.e. approximately 10% of the volume of material previously disposed). Impacts associated with larger disposal quantities were considered acceptable in the overall port construction authorization process and in the granting of a permit by Marine and Coastal Management for dredge disposal.

This approach of reaching an ROD at the end of Scoping has been discussed with the authorities in various forums. A meeting was held with national DEAT and provincial DEAE&T in Port Elizabeth on 13 July 2006, where there were no objections to this approach. It was recognized

that similar approaches have been followed for several EIAs in South Africa, as well as current studies at Coega that are reaching a ROD at the end of the Scoping phase. Furthermore, the approach was presented at the Coega Environmental Liaison Committee (ELC) meeting of 3 August 2006. At this forum, CSIR explained that it is recognized that the authorities cannot guarantee that they will be in a position to issue a decision at the end of Scoping, as it depends on the adequacy of the Scoping process and resulting information provided. Taking into consideration this proviso, the Transnet and CSIR team understand that there is “in principle” support from the authorities for the proposed approach of reaching an ROD at the end of Scoping.

### **4.3 Principles for scoping and public participation**

Scoping has been driven by a stakeholder engagement process that includes inputs from authorities, other interested and affected parties (I&APs), technical specialists and the project proponent. An effective Scoping process results in these stakeholders working together to produce better decisions than if they had worked independently.

As stakeholder engagement is an integral part of Integrated Environmental Management (IEM), IEM principles apply (refer to the IEM Information Series #3 on Stakeholder Engagement published by DEAT in 2002). Those principles most relevant to stakeholder engagement include:

- Meaningful and timeous participation of I&APs;
- Focus on important issues;
- Due consideration of alternatives;
- Accountability for information used for decision-making;
- Inclusivity (i.e. the needs, interests and values of I&APs must be considered in the decision-making process);
- Encouragement of co-regulation, shared responsibility and a sense of ownership;
- Dispute resolution.

To the above, one can add the following universally recognized public participation principles:

- Inclusive consultation that enables all sectors of society to participate in the consultation and assessment processes;
- Easily accessible information (physically, in a language that I&APs can understand and non-technical) and sufficient to enable meaningful participation;
- Active empowerment of grassroots people to understand concepts and information with a view to active and meaningful participation;
- Information accessibility is achieved by the use of a variety of dissemination vehicles, for example, by way of discussion documents, meetings, workshops, focus group discussions, and the printed and broadcast media;

- Accurate information and affording I&APs sufficient time to study material, to exchange information, and to make contributions at various stages during the assessment process;
- I&APs are afforded the opportunity to input via a range of methods, for example, via briefing sessions, public meetings, written submissions or direct contact with members of the EIA Team.

Public participation is a process and vehicle to provide sufficient and accessible information to I&APs in an objective manner to assist I&APs to identify issues of concern, to identify alternatives, to suggest opportunities to reduce potentially negative or enhance potentially positive impacts, and to verify that issues and/or inputs have been captured and addressed during the assessment process.

At the outset it is important to highlight two key aspects of public participation:

- There are practical and financial limitations to the involvement of all individuals within a public participation programme. Hence, public participation aims to generate issues that are representative of societal sectors, not each individual, and is designed to be inclusive of a broad range of sectors relevant to the proposed project.
- The public participation programme aims to raise a diversity of perspectives and is not designed to force consensus amongst I&APs. Indeed, diversity of opinion rather than consensus, is likely to enrich the ultimate decision making. Therefore, where possible, the public participation process aims to obtain an indication of trade-offs that all stakeholders (i.e. I&APs, technical specialists, the authorities and the development proponent) are willing to accept with regard to economic growth, social equity and ecological sustainability.

#### **4.4 Objectives of this scoping process**

This scoping process is being planned and conducted in a manner that is intended to provide sufficient information to enable the authorities to reach a decision and issue an authorization (in the form of a Record of Decision) at the end of the Scoping Phase (refer to section 4.2). Therefore, this Draft Scoping Report includes the findings of a series of specialist studies, including an assessment of impacts and proposed management actions to mitigate negative impacts or enhance benefits.

Within this context, the objectives of this Scoping process are to:

- Identify and inform a broad range of stakeholders about the proposed development;
- Clarify the scope and nature of the proposed activities and the alternatives being considered;
- Conduct an open, participatory and transparent approach and facilitate the inclusion of stakeholders' concerns in the decision-making process;
- Identify and document the key issues to be addressed in the study, through a process of broad-based consultation with stakeholders;
- Ensure due consideration of alternative options in regard to the proposed development, including the "No development" option;

- Identify and assess positive and negative impacts of the proposed activity on the environment;
- Recommend appropriate actions to avoid or minimise negative impacts that may result from the activity, and enhance benefits;
- Provide monitoring guidelines on which to base an environmental management programme.

## 4.5 Tasks in this Scoping process

This section provides an overview of the tasks being undertaken in the Scoping Study, with a particular emphasis on providing a clear record of the public participation process followed. A diagrammatic overview of the process is provided in Figure 4.1, which includes a time schedule.

### *Task 1: I&AP identification, registration and the creation of an electronic database*

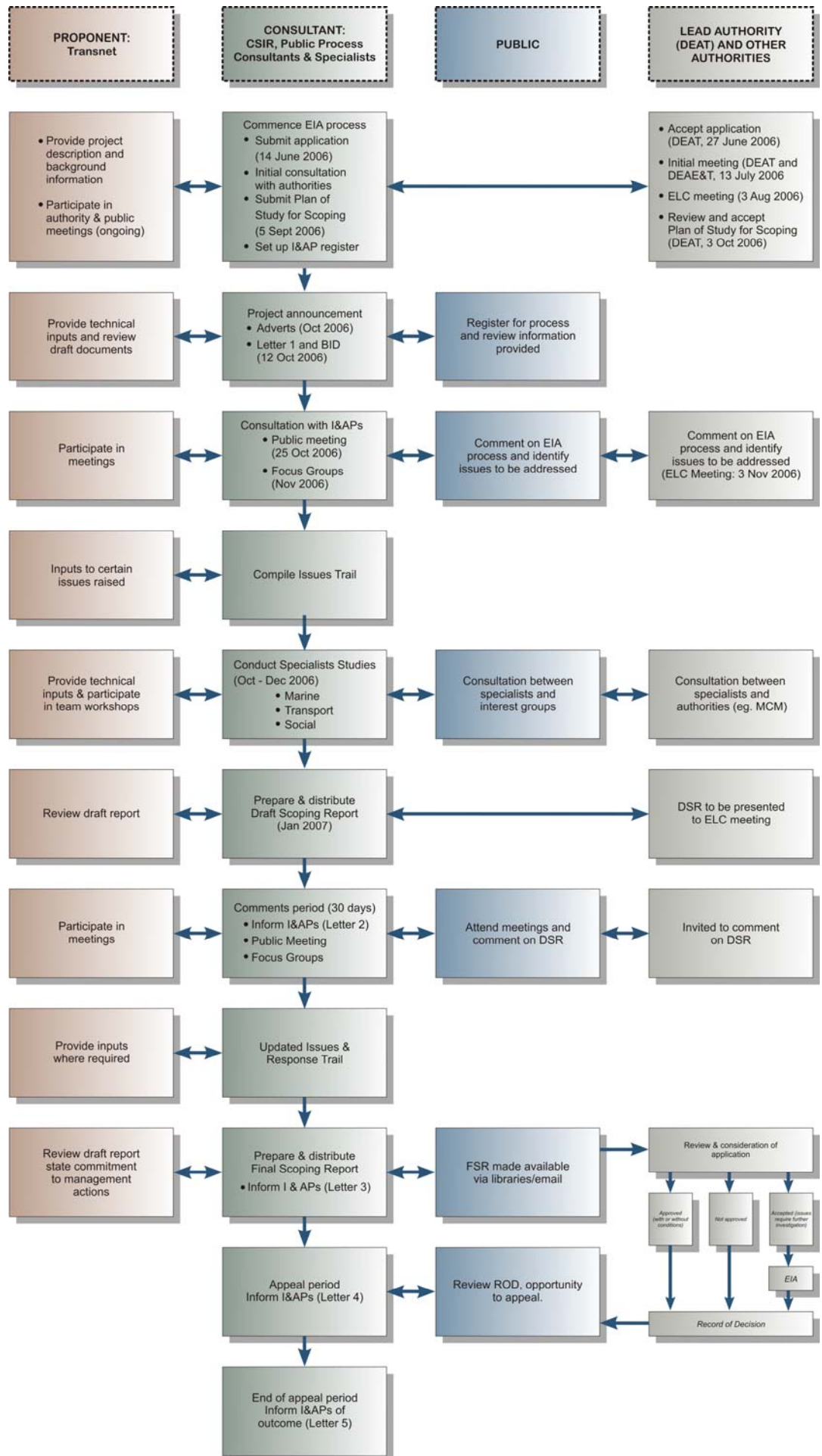
Drawing on extensive experience in the local area, an initial database of I&APs was developed for the Scoping process. This was supplemented with input from the EIA Project Managers, CSIR and the Project Applicants, i.e. Transnet. A total of 195 I&APs were included on the project database in this manner. Appendix A contains the current I&AP database, which has been updated to include participation by I&APs at recent meetings and in response to requests to register their interest in the project. At the time of producing this report, the database stands at 276 registered I&APs.

While I&APs have been encouraged to register their interest in the project from the start of the process, following the public announcements (see Task 2), the identification and registration of I&APs will be ongoing for the duration of the study. Stakeholders from a variety of sectors, geographical locations (local, provincial, national) and/or interest groups can be expected to show an interest in the development proposal, for example:

- National, Provincial and Local Government
- Local interest groups, for example, Councillors, ratepayers associations and health groups
- Landowners
- Commerce and Industry
- Tourism
- Labour
- Environment Groups and NGO's
- Grassroots communities and structures
- Non-Government and Community Based Organizations.

In terms of the electronic database, I&AP details are being captured and automatically updated as and when information is distributed to or received from I&APs. This ongoing and up-to-date record of communication is an important component of the public participation process.

Figure 4.1: Approach to this Scoping process showing the key roles and interactions between the proponent, consultant, public and authorities.



*Task 2: Announcement of Scoping process*

In order to notify and inform the public of the proposed project and invite members of the public to register as I&APs, the project and EIA process was advertised in two local, one regional and one national newspaper, as shown in Table 4.1. Copies of the advertisements placed are contained in Appendix B of this report. Included in this media announcement was the date of the first public meeting, which was held on 25 October 2006 at the Port Elizabeth City Hall.

*Table 4.1: Media announcements of the commencement of this EIA process*

<b>Newspaper</b>	<b>Area of distribution</b>	<b>Language</b>	<b>Date placed</b>
EP Herald	Local	English	13 October 2006
Burger Oos-Kaap	Local	Afrikaans	13 October 2006
Weekend Post	Regional	English	14 October 2006
Sunday Times	National	English	15 October 2006

In addition to the newspaper advertisements, letters with personal notification regarding the proposed project and an invite to attend the public meeting was mailed to all pre-identified key stakeholders on the database, which at the time consisted of 195 I&APs (Letter 1 dated 12 October 2006). Appendix C contains copies of correspondence and information distributed to I&APs prior to the release of the Draft Scoping Report. Letter 1 to I&APs included the Background Information Document (BID) developed for the project as well as a comment form. The purpose of the BID is to inform the public of the proposed project and the EIA process; and to provide an overview of the opportunities and mechanisms for public participation. As the Port of Ngqura is a restricted site, which does not allow for general public access, notices were not placed on the site.

*Task 3: Consultation with authorities and parastatals*

All public participation documentation is being sent to the lead authority (national DEAT) as well as other relevant authorities included on the I&AP database. Additionally, consultation with relevant authorities (local, provincial and national) on a one-on-one basis as well as via the Coega Environmental Liaison Committee (ELC) is being undertaken where necessary. The EIA project leaders, CSIR, will seek to hold meetings as necessary with the key authorities at various milestones throughout the process. Notes will be provided summarising the key outcomes from these meetings with authorities, and used to provide inputs into the EIA process.

Consultation has also been held with relevant parastatal authorities, such as the South African National Parks (SANParks). The specialists (in particular, the marine specialist, Dr Robin Carter) also consulted with relevant authority bodies, allowing in-depth discussion on issues and concerns directly related to those studies.

*Task 4: Consultation with wider I&APs to identify issues and concerns*

In order to accommodate the varying needs of I&APs as well as capture their views, issues and concerns regarding the project, various opportunities have been provided for I&APs to have their issues noted prior to the release of the Draft Scoping Report for public review, as follows:

- Public Meeting: Project Initiation, 25 October 2006, PE City Hall
- Focus Group Meetings: one-on-one consultation meetings ongoing for Scoping Process
- Written, faxed or email correspondence.

Appendix D of this document contain a copy of all the written comments received on the project as well as notes taken at meetings held as part of the EIA process.

The specialists for the marine, traffic and socio-economic specialist studies also consulted with key stakeholder groups, where necessary, as part of sourcing baseline information and local knowledge for inclusion in their studies.

*Task 5: Public Meeting*

A public meeting, to which all I&APs on the project database were invited (via adverts and Letter 1) was held on 25 October 2006 at the Port Elizabeth City Hall. A total of 16 I&APs registered their interest on the attendance register for the Public Meeting. Present at the meeting were representatives from Transnet (the applicants), the CSIR (Environmental Assessment Practitioners) and Public Process Consultants (public participation process).

The views, issues and concerns raised at the Public Meeting have been included in the Issues and Responses Trail in Chapter 5 and Appendix E contains the attendance register from the Public Meeting. Appendix F contains notes from the public meeting.

*Task 6: Focus Group Meetings*

In addition to the Public Meeting, one-on-one focus group meetings have been held with key stakeholders to inform them of the proposed project, the EIA process and obtain their issues and concerns for inclusion in the Draft Scoping Report. A total of 65 I&APs were consulted through the one on one focus group meetings. The purpose of these meetings is to develop the capacity of stakeholders to participate in the process as well as identify issues for inclusion in the Draft Scoping Report. The following Table provides an overview of key stakeholder meetings held prior to the release of the Draft Scoping Report.

*Table 4.2 : Key stakeholder meetings held prior to the release of the Draft Scoping Report*

<b>Organization</b>	<b>Date</b>	<b>Attendance</b>
Coega Environmental Liaison Committee	2 Aug 2006	5
South African National Parks (telephonic consultation and written response received)	14 Sept 2006	1
Langa and Uitenhage Alliance	16 Nov 2006	15
Motherwell Councillors	7 Nov 2006	8
SANCO Regional	9 Nov 2006	13
Zwide Alliance	7 Nov 2006	5
Kwazakhele and New Brighton Alliance	8 Nov 2006	18
<b>TOTAL ATTENDANCE</b>		<b>65</b>

Additional one-on-one focus group meetings are planned to be held with the following key stakeholder groups during the public review period for the Draft Scoping Report:

- Local Authority Environmental Division
- Environmental NGO's, e.g. Wildlife and Environment Society and Zwartkops Trust
- SANParks
- Labour Organization, e.g. COSATU
- Community Based Structures
- Surrounding Landowners, e.g. Coega Development Corporation and Marine Growers
- Marine based operators, e.g. Squid Fishing, Hand Line Fishing Forum.

In addition to those pre-identified key stakeholders already personally briefed, other stakeholders have been provided with the opportunity to participate early in the study through means such as the public meetings, telephone discussions and email consultation. Appendix E of this report contains the attendance registers from meetings held and Appendix F contains notes from all formal meetings.

*Task 7: Identification of Issues and Concerns*

Issues and concerns raised by I&APs have been synthesized into the Issues and Responses Trail (Chapter 5), having been identified through the following mechanisms:

- written submissions in response to advertisements and communications with I&APs
- issues raised at public meetings
- issues raised through one-on-one meetings with I&APs and other stakeholders.

The Issues and Responses Trail also includes responses from members of the EIA Team (and, in some cases, the project proponent) to the issues raised. In general, the responses indicate how the issues will be addressed in the EIA process. In some cases, immediate responses and

clarification are provided. Where issues are raised that the EIA team considers beyond the scope and purpose of this EIA process, clear reasoning for this view is provided.

***The Scoping process is currently at this stage, when I&APs are invited to review the Draft Scoping Report. This stage and the forthcoming steps in the Scoping process are presented below:***

*Task 8: Review of the Draft Scoping Report (current stage of the process)*

This stage in the process includes the release of the Draft Environmental Scoping Report for a 30-day public review period. All I&APs on the project database will be notified in writing of the release of the Draft Scoping Report for review and invited to attend a Public Meeting that will be held during the review period.

The following mechanisms and opportunities will be utilized to notify I&APs of the comment period, to provide I&APs access to information, and to submit any additional issues and concerns they may have on the Draft Report:

- Newspaper Advertisements (two local and one regional) to notify I&APs of the release of the Draft Scoping Report, the Comment Period and Public Meetings
- Letter 2: to notify I&APs of the release of the Draft Scoping Report, the Comment Period and Public Meeting and including an executive summary of the report
- Public Meeting in Port Elizabeth City Hall
- Mailing or direct delivery to all key stakeholders (including relevant authorities)
- Mailing of the executive summary from the DSR to all I&APs on the database
- Placement of Draft Scoping Report in public libraries
  - Nelson Mandela Metropole Libraries: Govan Mbeki Main Library, New Brighton, Motherwell, Zwide, Walmer, Despatch, Uitenhage and Gelvandale,
  - Other: Nelson Mandela Metropolitan University (Main and Technicon Campus), Vista University
- Continuation of one-on-one focus group meetings.

All issues and concerns identified through the review of the Draft Scoping Report will be captured in the updated Issues and Responses Trail, which will be included in the Final Scoping Report for submission to the authorities for decision-making.

*Task 9: Final Scoping Report*

Letter 3 to I&APs will include notification of the submission of the Final Scoping Report to the authorities for their decision-making. To ensure ongoing access to information, copies of the Final Scoping Report will be placed in the following public libraries.

- Nelson Mandela Metropole Libraries: Govan Mbeki Main Library, New Brighton, Motherwell, Zwide, Walmer, Despatch, Uitenhage and Gelvandale,

- Other: Nelson Mandela Metropolitan University (Main and Technicon Campus), Vista University.

*Task 10: Appeal Period*

Following the issuing of the ROD, a 30 day appeal period is allowed in terms of the EIA Regulations. All I&APs on the project database will be notified in writing of the Record of Decision and the subsequent 30 day appeal period as well as the method of appeal (Letter 4). Advertisements will be placed in two local and one regional newspaper, as for Task 8 above. A copy of the ROD will be placed on the project website and be made available at the same libraries as indicated in Tasks 8 and 9 above.

*Task 11: Inform I&APs of the outcome of the appeal period*

At the end of the appeal period the CSIR will seek written confirmation from DEAT on the outcome of the appeal period (i.e. whether or not any appeals were submitted). Having obtained this feedback in writing from DEAT, the CSIR team will send a letter to all I&APs on the database informing them of the outcome of the appeal period (Letter 5).

## 4.6 Specialist studies

The main objective of the specialist studies is to provide independent, scientifically sound information on issues of concern relating to the planned development. In the specialist studies, issues of concern have to be investigated and assessed with regard to the significance of potential impacts.

### 4.6.1 Identification of specialist studies required

Based on the description of the proposed project and previous experience in the Coega area, a set of specialist studies has been identified (Table 4.3). Should there be other key issues identified during the Scoping phase that are not covered within the scope of these specialist studies, further studies may have to be constituted at that stage.

It must be noted that the purpose of the *Sediment analysis* study was to source the necessary field data in order to complete the specialist study on *Marine ecology, sediment toxicology and dredging*. The *Sediment analysis* study therefore does not include an impact assessment section, but provides information that is incorporated into the assessment in the marine study by Dr Carter.

*Table 4.3: List of Specialist Studies and Specialists*

<b>Specialist study</b>	<b>Specialists</b>
1) Marine ecology, sediment toxicology and dredging	Dr Robin Carter, <i>Lwandle Technologies</i>
2) Social Impact Assessment	Johan van der Walt, <i>Ntshebe Consulting</i>
3) Traffic and Transportation	Roy Bowman, <i>Stewart Scott International</i>
<b>Data report</b>	
4) Sediment analysis ( <i>note: provides information to the marine specialist study</i> )	Andrew Pascall, <i>CSIR Stellenbosch</i>

An overview of the scope of the specialist studies is provided below. The specific issues to be addressed in the three specialist studies are provided in Section 5.3.

#### **4.6.1.1 Sediment analysis**

Sampling and analysis will be done of material to be deposited at the offshore disposal site. The need for this study was identified at an early stage of the scoping process based on discussions with Dorian Bilse (NPA), the marine ecologist on the CSIR team (Dr Robin Carter) and the requirements for the dredge disposal license application to Marine and Coastal Management (MCM). This study will include sampling and analysis of the material to be disposed of the dredge site, as well as sampling at the dredge site to establish its current condition. The sediment analysis provides an important source of information for the marine ecology study.

#### **4.6.1.2 Marine ecology**

A study will be conducted on the potential impacts of the proposed project on marine ecology. The study will consider impacts due to activities within the port area, as well as due to disposal of dredge material at an offshore site. The scope of marine ecology being considered will range from benthic organisms, to marine mammals and seabirds.

This marine ecology study is dependent on having information regarding the fate of dredging material when disposed into the marine environment. Typically, this type of information can be obtained through computer-based numerical modelling. This approach is often followed in the absence of any empirical monitoring data for an area. However, given the extent of monitoring at the port and surrounds over the past few years of construction, the approach has been adopted - based on discussions with NPA (e.g. Dorian Bilse) and coastal engineering specialists – whereby the marine ecology study draws on available sampling and monitoring information. This monitoring data was found to be sufficient for direct interpretation and use by the marine ecologist on the CSIR team, and it was not considered necessary to undertake additional computational modelling studies to understand the fate of the dredge material.

#### **4.6.1.3 Traffic and transportation**

Key issues identified from the initial meetings with authorities included the sourcing of the armour rock; and the consideration of re-use and disposal options for the excess marine material (e.g. land-based disposal). Such issues will have associated transportation impacts and a specialist study on traffic and transportation has therefore been undertaken. This study considers potential traffic impacts within the port and IDZ, as well as in the surrounding local area.

#### **4.6.1.4 Social impact assessment**

A social impact assessment study has been undertaken that considers potential social impacts on users in the Nelson Mandela Bay (e.g. fishermen, recreational water sports, marine traffic and eco-tourism).

### ***4.6.2 Generic Terms of Reference for Specialist Studies***

The following generic requirements apply to all specialist studies conducted as part of this study:

- a) Clearly outline the study approach and identify assumptions and sources of information;
- b) Briefly describe the affected environment and its sensitivity in terms of the study;
- c) Identify any critical gaps in the information on which the specialist study is based;
- d) Identify environmental conditions or operating scenarios that could constitute “worst case” conditions for potential impacts, indicating the frequency and duration of such events;
- e) Quantify, wherever possible, the potential direct and cumulative environmental effects;
- f) Assess impacts during all phases of the development: site preparation and construction, operation, closure and rehabilitation;
- g) State the Level of Confidence in the specialist analysis;
- h) Assess the impacts with and without mitigation.

The following conventions for assessing impacts and assigning significance to the key issues identified through the Scoping process are to be applied in the specialist studies and the Environmental Impact Report. The classification of an issue as a “key issue” during the Scoping phase does not necessarily imply that an impact of high or medium significance will result. The significance of the impact can only be ascertained once a specialist study has been conducted. After such a study, it is possible that a key issue may turn out to have an impact of low significance.

### **Assessment of impacts**

The **significance** of potential impacts shall be described as follows:

<i>Low:</i>	Where the impact would not have an influence on the decision or require to be significantly accommodated in the project design;
<i>Medium:</i>	Where it would have an influence on the environment and would require refinement or modification of the project design or alternative mitigation;
<i>High:</i>	Where it could have a 'no-go' implication (for example, if the predicted impact exceeded legislated limits) and would require modification of the project design or alternative mitigation to reduce the impacts to acceptable levels, if possible.

The assessment of impact **significance** should be based on the following convention:

<i>Nature of impact:</i>	This reviews the type of effect that a proposed activity would have on the environment and should include "what would be affected and how?"
<i>Extent:</i>	This should indicate whether the impact would be local and limited to the immediate area of development (the site); limited to within 5km of the development; or whether the impact may be realised regionally, nationally or even internationally.
<i>Duration:</i>	This should review the lifetime of the impact, as being short term (0 - 5 years), medium term (5 - 15 years), long term (>15 years but where the impacts would cease after the operation of the project), or permanent.
<i>Intensity:</i>	Here it should be established whether the impact is destructive or innocuous and should be described as either low (where no environmental functions and processes are affected), medium (where the environment continues to function but in a modified manner) or high (where environmental functions and processes are altered such that they temporarily or permanently cease).
<i>Probability:</i>	This considers the likelihood of the impact occurring and should be described as improbable (low likelihood), probable (distinct possibility), highly probable (most likely) or definite (impact would occur regardless of prevention measures).

The status of the impacts and degree of confidence with respect to the assessment of the significance, must be stated as follows:

<i>Status of impact:</i>	A description as to whether the impact would be positive (a benefit), negative (a cost), or neutral.
<i>Confidence:</i>	The degree of confidence in the predictions, based on the availability of information and specialist knowledge.

Other aspects to take into consideration in the assessment of impact significance are:

- Impacts will be described both before and after the proposed mitigation and management measures have been implemented;
- Impacts will be evaluated for both the construction and operational phases of the project;
- The impact evaluation will, where possible, take into consideration the cumulative effects associated with this and other facilities/projects (e.g. proposed Coega Integrated LNG-to-Power Project) which are either developed or in the process of being planned or developed in the port;
- The impact assessment will attempt to quantify the magnitude of potential impacts (direct and cumulative effects) and outline the rationale used. Where appropriate, national or international standards/guidelines are to be used as a measure of the level of impact.

### **Mitigation and monitoring**

- a) Where negative impacts are identified, mitigation objectives (i.e. ways of reducing negative impacts) will be set, and attainable mitigation actions recommended. Where no mitigation is feasible, this will be stated and the reasons given. Where feasible, measures will be recommended for avoiding impacts, rather than mitigating them.
- b) Where positive impacts are identified, actions to enhance the benefit will be recommended.
- c) Quantifiable standards for measuring the effectiveness of mitigation and enhancement will be set. In addition, monitoring and review programmes will be recommended in order to assess the effectiveness of mitigation.

### ***4.6.3 Peer review of specialist studies***

Independent peer review of specialist studies is included in the approach to this EIA process. The following peer reviewers were appointed for each of the specialist studies, with their reviews provided in the form of letter reports:

*Table 4.4: List of Specialist Studies and Reviewers*

<b>Specialist study</b>	<b>Reviewer</b>
Marine ecology, sediment toxicology and dredging	Dr Andrea Pulfrich, <i>Pisces Environmental Services</i>
Sediment analysis ( <i>note: provides information to the marine specialist study</i> )	Dr Andrea Pulfrich, <i>Pisces Environmental Services</i>
Social Impact Assessment	Dr Shakti Malan
Traffic and Transportation	André Frieslaar, Pr. Eng. <i>HHO Africa: Infrastructure Engineers</i>

## 4.7 Schedule for consultations with authorities

The proposed time schedule for this Scoping process takes into account the interaction between the stakeholder engagement and specialist study process, and shows the key stages where inputs are required from the authorities. Initial consultation took place with national DEAT and provincial DEAE&T at a meeting in Port Elizabeth held on 13 July 2006 and on 3 August 2006 (ELC meeting in Port Elizabeth).

As a minimum, the authorities will be consulted at the following stages of the Scoping process:

- Review of issues raised through the initial public consultation and confirmation of the specialist studies required (presentation at quarterly ELC meeting in Port Elizabeth on 9 November 2006);
- Review of the Draft Scoping Report (ELC meeting with authorities on 6 February 2007);
- Presentation of the Final Scoping Report (plan to meet with authorities in mid-March 2007).

Where possible, the above consultations will be done via the ELC meetings, if the timing is appropriate. The EIA team will request to be included in the quarterly ELC meetings, to present important feedback appropriate at that stage of the Scoping process.

In addition, the authorities will also be invited to:

- Participate in public and/or one-on-one meetings;
- Submit comments, issues and concerns;
- Submit comments on the Draft Scoping Report.

## 4.8 Consideration of alternatives

The analysis and screening of alternatives that preceded this EIA process is presented in Chapter 2 as part of the description of the proposed project. The purpose of the following section is to provide a review of the range of possible alternatives that should be considered in an EIA process, with an explanation on the extent to which these alternatives are considered practical and feasible for this project, and in certain cases, how they are being carried forward through the EIA and design process.

The **identification of alternatives** has been based on the following: findings and experience from previous EIAs in the Coega area and for projects of this nature; consultation process with authorities, parastatals and other I&APs; and consultations between the specialists and the project proponent and key stakeholders.

#### **4.8.1 Consideration of the “No Go” Alternative**

The “no go” alternative is used as a benchmark against which to assess the impacts of the proposed project. Therefore, for each of the key impacts (i.e. marine, transportation and social), an up-to-date description is provided of the current environmental conditions. It can be assumed that if the project did not proceed, that the current conditions and trends could continue. However, the potential benefits of the proposed activities would not be realized. In this regard, the key potential implications of the project not proceeding are summarized below:

- If the **two additional container berths did not proceed**, then South Africa’s ability to accommodate the increasing inflow and outflow of containers would be compromised. The two additional berths at the Port of Ngqura are planned to support container traffic at a national scale, with containers to be transported by road and rail between Ngqura and other parts of South Africa (especially Gauteng). Opportunities for expansion of the container handling facilities at other South African ports (such as Cape Town and Durban) are limited, and additional facilities are needed over and above possible expansions being investigated at these ports. Should the Ngqura container terminal expansion not proceed, this would place additional pressure on other ports; potentially affect the financial viability of the planned improved railway network between Ngqura and Gauteng; and potentially result in increased container traffic having to be routed to/from the country via ports outside South Africa, such as Maputo.
- If the **construction of the administration craft basin did not proceed**, then the services to be provided by this basin (i.e. accommodating tugboats, service/pilot vessels, and providing facilities for launching a SANParks vessel) would not be available at the Port of Ngqura. This would require such services to be provided from the Port of Port Elizabeth. However, the distance between the Port Elizabeth and Ngqura Ports would result in delays in being to bring vessels to Ngqura, which could compromise the safety and operational performance of the Port of Ngqura, as well as adding to the operational costs. The ability to respond to emergency conditions (eg. fire), or rapid changes in weather and sea conditions, would also be compromised if the service vessels were located at PE harbour.

#### **4.8.2 Consideration of alternatives**

This section provides a review of the feasibility and applicability of each of the six broad types of alternatives listed in the Guideline Document published by DEAT (1998) on the ECA EIA Regulations. This review conveys that each of these alternatives has been carefully considered. Where reasonable and feasible alternatives have been identified, these are described in more detail in the project description (Chapter 2).

##### **Demand alternatives:**

This could include alternatives for managing demand rather than increasing supply of a service. In the case of this project, and in particular the global trend of increasing

container traffic, no feasible demand alternatives were identified that could be addressed by the proponent as an effective alternative to the proposed activities.

**Activity alternatives:**

This could include alternative ways of importing/exporting containerized goods, such as via air freight, instead of using container terminals. This would be dependent on several external factors, such as the nature and value of the goods being transported. The consideration of such alternatives is considered beyond the scope of this EIA process.

**Location alternatives:**

This could include providing increased container terminal facilities at other ports in South Africa; or providing the administration craft basin services via the Port of Port Elizabeth. The implications of such alternatives are discussed in section 4.8.1. It is conveyed that even with potential improvements in container handling capacity at the ports at Cape Town and Durban, the expansion is still required at Ngqura. With regards to the location of the two additional container berths within the Port Of Ngqura, firstly, the proposed site is in accordance with the long-term port planning. Secondly, the extension of the existing quay wall is the most practical and technically efficient option. No other locations within the port for the two container berths are therefore identified as feasible options to include in this EIA process.

With regards to locating the administration craft basin services at Port Elizabeth harbour, this is considered too limiting for the Port of Ngqura due to the travel time for vessels between PE and Ngqura and delays this could impose in terms of service efficiencies and response times in case of emergencies. Within the Port of Ngqura, the site just west of the root of the eastern breakwater was the only location suitable for this administration craft basin. Therefore, no feasible location alternatives for the proposed administration craft basin have been identified.

Alternative locations for the disposal of dredge spoil have been given careful consideration as part of the screening process at the outset of this EIA process. Land-base options and an alternative offshore disposal site have been investigated, with this process described as part of the project description (Chapter 2).

**Process and technology alternatives:**

Alternative construction methods are considered (e.g. suitability of different types of dredgers). These alternatives are discussed in the project description (Chapter 2).

**Scheduling alternatives:**

No scheduling alternatives were identified by Transnet.

***Input alternatives:***

Alternative sources for rock armour needed for the administration craft basin have been identified and included in the project design and planning. These alternatives are described in Chapter 2 (project description).