Proposed Terms of Reference for EIA studies:

Terms of reference for “Development of Multipurpose Terminal by revamping EQ-2 to EQ-5 berths to cater to 14.00M draft vessels in the Northern Arm of Inner Harbour at Visakhapatnam Port Trust on DBFOT basis”.

1.0 INTRODUCTION:

Visakhapatnam Port is located at Latitude 17° 41’ N and 83°18’ E Longitude in the state of Andhra Pradesh. It is situated mid-way between the Ports of Kolkata and Chennai on the East Coast of India. The Port is well connected by road, rail and air to its hinterland and many important cities in the country.

The Port was constructed during 1930-33 by forming an entrance channel through the estuary of Meghadrigedda. The city of Visakhapatnam lies on the northern side of the entrance channel. On the southern side of the entrance channel exists the dolphin’s Nose Hill of the Eastern Ghats, which affords shelter to the inner harbour of the Visakhapatnam Port. The outer harbour of the Port was constructed during 1970-76 and a Fisheries Harbour was also subsequently built at the northern part of the outer harbour basin. The Port presently comprises two harbour basins, the Inner Harbour with 18 berths for ships of about 80,000 DWT size, one return end used as a berth for ships of smaller length & one mooring area in about 100 hectares of water area and the Outer Harbour with 7 berths for larger ships up to 2,00,000 DWT, one berth for smaller ships and one mooring area in about 200 hectares of water area. Drawing showing the layout of the Port of Visakhapatnam is enclosed.

2.0 SCOPE OF WORK:

The study should cover all the operations to be carried out for the proposed project. The main objective of the study is to identify the present status of the environment and the expected environmental impact due to the proposed “Development of Multipurpose Terminal by revamping EQ-2 to EQ-5 berths to cater to 14.00M draft vessels in the Northern Arm of Inner Harbour at Visakhapatnam Port Trust on DBFOT basis”, which may consists of different activities like construction of new berths, pipelines, development of stacking areas, dredging, etc., and to formulate proper scientific measures to mitigate any likely environmental damage and upgrade ecological system in the area. The details of environmental issues and how they are addressed will be given in the EIA study.

3.0 It is proposed to have the following chapters to the EIA:

1. Introduction
2. Project description
3. Anticipated Environmental impacts and mitigation measures
4. Analysis and alternatives (Tech & site)
   1. Environment Management Plan
   2. Additional studies
   3. Project benefits
   4. Environment cost benefit and analysis
   5. Summary and conclusions
   6. Disclosure of Consultants

i. Objective:
   Terms of Reference (TOR) for preparation of Environmental Impact Assessment (EIA) for Ports and Harbour projects as per EIA notification 2006. TOR covers all environmental related features.

ii. General Information:

   Development of port facilities can make a significant contribution to the economic development and at the same time it also create adverse impacts on the surrounding environment. Activities like construction work, dredging, discharges from ships and cargo operations may create a wide range of impacts on the environment. Port development and operation should, therefore, be planned with careful consideration of their environmental impacts. Preparation of EIA report and implementation of EMP is essential for effectively managing these adverse effects.

1. Introduction:

   This chapter covers the following:
   - Purpose of the project
   - Project proponent
   - Details of the project and its importance
   - Land description
   - Profile of the project proponent
   - Whether the project attracts the Provision of General Conditions of EIA notification 2006
   - Any litigation pending against the proposed project
   - In case of expansion / modernisation, environmental compliance status of the existing project to be explained

2. Project Description:

   This chapter covers the following:
   - Type of the project
   - Relevance of the project in the light of existing development plans
   - Project coverage
   - Capacity of the project
   - Technologies involved for design, construction, equipment and operation
Use of public infrastructure
Estimated water budget for the proposed project
Estimated cost of the project development
Details of the land acquisition
Resources, man power and time frame etc.,

Essential Maps being provided with application:

- A map specifying locations of the state, district and project location
- A map of the project area and 10 Km from boundary of the proposed / existing project area
- A map covering aerial distance of 15 Km on the landward side from the proposed project boundary delineating environmental sensitive areas
- Land use map of the study area to 1:25,000 scale
- Site layout plan of the proposed development to a scale of 1:5000
- Area drainage contour map of the project area and 2-5 Km from the proposed project area
- Hydrographic charts of the offshore area to a scale of 1:50,000
- The CRZ maps indicating High Tide Level (HTL), Low Tide Level (LTL)

3. Analysis of alternative (Technology & Sites)

This chapter covers the following:

- Description of various alternatives
- Description of each alternative
- Summary of adverse impacts of each alternative
- Selection of alternative

4. Description of the Environment:

Study Area:

As a primary requirement of EIA process, the proponent proposes to make use of primary baseline data in the project area as well as area falling 5 KM from the proposed project boundary.

Secondary data is proposed to be collected from within 15 KM aerial distance from the project boundary.

Base line data related to the following aspects is proposed to be covered in the report:
4.1 **Land Environment**: Land, Topography, Geology, Soil, Meteorological data

4.2 **Water Environment**: Ground Water, Surface water data

4.3 **Marine Environment**: Coastal Hydrology / geomorphology, Bed sediment contamination, Sea / Harbour Water Quality

4.4 **Biological Environment**: Marine / Coastal Ecology, Flora and Fauna in the neighbourhood in the study area as well as 15 Km from its boundary

4.5 **Air Environment**: ambient air parameters viz., RSPM, nitrogen dioxide, sulphur dioxide, carbon monoxide, heavy metals and other harmful air pollutants to be collected in an area extending at least 5 Km from the project boundary

4.6 **Noise**: noise pollution at the project area and the neighbourhood up to 1 Km is to be monitored as per CPCB norms

4.7 **Existing Solid Waste Disposal facilities**: Details of authorised municipal solid waste facilities, biomedical treatment facilities and hazardous waste disposal facilities in the area

4.8 **Socio-economic and occupational Health Environments**: the demography, particularly on human settlements, health status of the communities, existing infrastructure facilities in the proposed area and area of impact due to the proposed activity.

4.9 **Public Utilities**: existing public utility infrastructure shall be ascertained and reported to assess the impacts of the project on these public utilities

5.0 **Anticipated Environmental Impacts and Mitigation Measures**:

This chapter describes the likely impact of the project on each of the environmental parameters, methods adopted for assessing the impact such as model studies, empirical methods, reference to existing similar situations, reference to previous studies, details of mitigation methods proposed to reduce adverse effects of the project, best environmental practices and conservation of natural resources, w.r.t Land Environment, Water Environment, Marine Environment, Biological Environment, Air Environment, Noise Pollution, Socio Economic & Occupational Health Environment, as enumerated above.
6.0 Environmental Monitoring Programme

This chapter includes
The technical aspects of monitoring the effectiveness of mitigation measures such as measurement methodologies, data analysis, reporting, schedules, emergency procedures, detailed budget & procurement schedules.

7.0 Additional Studies

A study related to cumulative effects due to proposed and existing project operations may be taken up.

8.0 Project Benefits :

This chapter includes
Benefits accruing to the locality, neighbourhood, region and nation as a whole. The details of benefits by way of improvements in the physical infrastructure, improvement in the social infrastructure Employment potential. Other tangible benefits like improved standards of living, health, education etc.,

9.0 Environmental Cost benefit analysis

If recommended by the Expert Appraisal Committee at the scoping stage, this chapter includes the environmental cost benefit analysis of the project.

10.0 Environmental Management Plan (EMP)

Summary of potential impacts & recommended mitigation measures
Allocation of resources and responsibilities for plan implementation Administrative and technical set up for management of environment Institutional arrangements proposed with other organisations / Govt. authorities for effective implementation of environmental measures proposed in the EIA Safe guards / mechanism to continue the assumptions / field conditions made in the EIA Environmental specifications for contractors should cover the required safeguards during he design and construction stage.
11.0 Summary & Conclusion (Summary EIA)

The summary of the full EIA report condensed to ten A-4 size pages at the maximum. It covers in brief the following chapters of the full EIA report: Introduction / Project description / Description of the environment / anticipated environmental impacts & mitigation measures / additional studies / Environmental monitoring programme / project benefits / Environmental management plan / Disclosure of consultants engaged.

12.0 Disclosure of Consultants engaged

The study in respect of conducting EIA for the subject project shall be taken up by the EIA accredited agencies of Govt. Undertaking using guidelines prescribed by MoEF.

13.0 As we are continuously monitoring the environment data, VPT may be permitted to use the data generated / studies conducted as indicated below:

13.1 The existing environmental data being generated by VPT is as below:

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<th>Environmental Parameters</th>
<th>Parameters monitored</th>
<th>Sampling Area</th>
<th>Monitoring Agency</th>
<th>Frequency of Monitoring</th>
<th>Remarks</th>
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<td>Parameters: PH, colour, odor, Tss</td>
<td>1. FishingHarbour open sea</td>
<td>AUDC/AU</td>
<td>Quarterly</td>
<td>Water samples</td>
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13.2. The various other studies generated by VPT w.r.t environmental up keep are as below:
| 4. | Local Oil Pollution Emergency Plan for VPT in compliance with NOSDCP, DGCG. | Well Integrated emergency plan for Oil Spill & MOU between VPT & Oil companies on Combating Oil Spills at Visakhapatnam. | OIL Companies & VPT in line with the directives of Director General Coast Guard’s NOSDCP | 7th August, 2007 | A Report on Local Oil Pollution Emergency Plan for VPT, along with MOU between VPT & OIL Companies on combating Oil Spills at Visakhapatnam dt.2007. |
| 5 (a) | EIA study for Modernisation of existing facility and addition of new facilities entailing capacity at Visakhapatnam Port | As per the ToR issued by MoEF for the subject projects | M/s.WAPCOS, Chennai. | January 2015 | Report submitted by the agency in January 2015 |
| 5 (b) |  | - Do – | - Do – | - Do – | - Do – |
| 14.0 | The consultants will follow various notifications, guidelines and standards issued by MoEF and APPCB and other regulatory authorities in connection with the other standards. |