

EXECUTIVE SUMMARY
FOR
ADDITIONAL LIQUID CARGO JETTY
At Jawaharlal Nehru Port Trust, Navi Mumbai



Prepared for
JAWAHARLAL NEHRU PORT TRUST
Navi Mumbai

Prepared by
TATA CONSULTING ENGINEERS LIMITED
Unit No. NB 1502 & SB 1501
15th Floor, Empire Tower, Opp Reliable Tech Park
Cloud City Campus, Airoli, Navi Mumbai- 400708

September 2018

EXECUTIVE SUMMARY

1.1 Preamble

The Jawaharlal Nehru Port Trust (JNPT) at Navi Mumbai (formerly known as the Nhava Sheva Port) is India's No. 1 container port handling 55% of the container cargo across all major ports in India. Commissioned on 26th May 1989, JNPT occupies a prominent place among the most modern ports in India. It is the second youngest and one of the most modern major ports of the country

At present JNPT is handling the liquid cargo at existing Liquid Bulk Terminal with twin side berthing terminal (LB1/LB2) and additional dolphins. This terminal has a planned capacity of 6.5 MTPA. The total liquid cargo handled at JNP in year 2016-17 was 6.78 MTPA. The traffic handled at these berths (LB1/LB2) was 6.257 MTPA with high berth occupancy level of LB1 87% & LB2 80% and the remaining liquid cargo of about 0.52 MTPA (approx.) was handled at general/liquid cargo berths SB02 & SB03 with a berth occupancy level of 67% & 59%.

It is observed that over the recent years, the terminal has been operating at very high berth occupancy rates resulting in unacceptable levels of pre-berthing detention. Accordingly JNPT plans to develop an additional dedicated liquid cargo handling facilities.

As per Environmental Impact Assessment (EIA) Notification 2006 and its amendments till date, published by Ministry of Environment, Forest & Climate Change (MoEF & CC), the project falls under Category 'B', under the 7(e) (Ports, Harbours, Project) Sector of EIA Notification, Schedule I.

The approved ToR was given by State Expert Appraisal Committee (SEAC-1). Based on the Standard Terms of Reference (ToR) prescribed for the 7 (e) Category application for ToR approval with reference no. SEAC-Minutes-0000000616 dated 4th May 2018 was made. The same is considered for preparing the EIA report.

1.2 Applicability of CRZ Notification

Physical demarcation of HTL, LTL and delineation of CRZ boundaries for the project site was carried. As per the CRZ Classification the proposed site of the Additional Cargo Jetty falls completely under CRZ IVB category. This project requires CRZ Clearance from MCZMA.

1.3 Identification of Project proponent

JNPT is managed by the Jawaharlal Nehru Port Trust (JNPT), an Autonomous Body under the Government of India (GoI). JNPT in-turn is managed by a Board of Trustees constituted by the GoI. The Board is headed by the Chairman.

1.4 Project Description

A twin type liquid jetty arrangement is proposed to cater the future traffic demand at JNP. The proposed additional liquid cargo jetty is connected to existing BPCL Oil Jetty by Approach Bridge. The jetty is planned based on typical Island jetty concept with mooring and berthing dolphins and central unloading platform for handling liquid products on both sides. A twin type liquid jetty arrangement would have the following parts;

- A common unloading platform to cater for unloading equipment and piping
- 8 reasting dolphins on each jetty (4 no.s on each side)
- Mooring dolphins (2 no.s each side of unloading platform)
- Approach trestle
- Walkways connecting dolphins with service platform

1.5 Project Location

The additional twin liquid cargo terminal is proposed abutting with the existing BPCL liquid terminal of JNPT located in Navi Mumbai, Village- Sheva, Tehsil- Uran, and District- Raigad. Geographic coordinates for proposed Terminal area within JNPT are Lat - 18° 56' 33.15"N and Long - 72° 56' 9.49"E.

1.6 Description of the baseline

Details of the study area

EIA notification requires that 10-km radius area surrounding the project site shall be covered under the study and the same is denoted as study area. As part of the study, description of biological environment and human environment such as environmental settings, demography & socio-economics, land-use/ land cover, ecology & biodiversity have been carried out for entire 10-km radius. The Project site is in Arabin Sea. This report incorporates the baseline data monitored for three months (January to March 2018) representing winter season.

Ambient Air Quality

The general meteorological data collected during the study period confirms that climatic status of the study area is consistent with the regional meteorology. Existing Ambient air Quality of all stations is well within Central Pollution Control Board (CPCB) permissible limits except for PM₁₀ viz, 100 µg/m³ respectively, which is mostly higher than the prescribed CPCB standards. Allied work inside port area and overall developmental activities may be contributing for increase in the concentration of PM₁₀. This effect is temporary till the construction going on JNPT area and expected to come down after completion of the projects such as Road widening for NH-4A, Container Terminal 4, SEZ area etc.

Ambient Noise Levels

The Leq (DN) values recorded for various stations in the study area during 24 hour study period were observed to be in the range of 59.1 dB (A) to 78.2 dB (A). Leq values recorded for various stations during day time (6.00 AM and 10.00 PM) were found to be in the range of 56.5 dB (A) to 77.7 dB (A). Leq values during night time (10.00 PM and 6.00 AM) were found to be in the range of 60.8 dB (A) to 79.1 dB (A). Leq levels recorded during day and night were mostly found around prescribed limits for industrial category except few locations i.e. 75 dB and 70 dB respectively.

Surface Water Quality

The values of various parameters such as pH, Dissolved Oxygen, BOD, Oil & Grease and Faecal coliforms obtained for water samples collected from JNP Harbour area during the months of January 2018 to March 2018 are within the prescribed limits.

The concentration ranges observed for various parameters for water samples collected from Nhava Creek area during January 2018 to March 2018 are also within prescribed limits. Bacteriological parameters were also found to be far below the prescribed limits, set for Harbour region. The concentrations of Phenol and NH₃ - N were found within limit in both Harbour and Creek water samples.

Soil Environment

The soil pH was observed 7.4 at JNPT SEZ area, suggesting that the soil in this area is slightly alkaline. Soil Electrical Conductivity (EC) assessments measure the soluble salts in the soil. EC of soil depend upon the porosity, water content, salinity level, cation exchange rate and temperature. The EC of soils was observed in at 0.84 ms/cm.

All necessary control steps will be provided for handling, storage and disposal of solid/ hazardous waste generated from the plant. Thus, there will not be any significant impact of solid/hazardous waste on the soil environment.

Sediment

The nutrients in the sediments were collected and tested at 13 locations during the study. 9 locations in JNP Harbour area and 4 locations in JNP Nhava Creek area. Out of all the parameters tested, phosphate, nitrate and POC are found to be exceeding the values due to ingress of nearby industrial waste water and untreated sewage discharge from nearby villages.

SOCIO-ECONOMIC ENVIRONMENT

An assessment of Socio-economic environment forms an integral part of an EIA study. Socioeconomic environment – demographic & related socio-economic data was collected from District Census Handbook to assess socio-economic status of the study area.

The proposed project will generate employment for approx. 50 persons during operation phase. The indirect employment will also be generated by way of

transportation and other casual employment for many people. Local people will be given preference for the jobs in the proposed project. Economic status of the local people will improve due to the increased business opportunities, thereby, making a positive impact. Educational, medical and housing facilities in the study area will considerably improve. Also, company is participating in CSR activity which will improve overall the economic growth of the area.

Thus, the proposed project will have significant positive impact on the employment pattern of the study area.

1.7 Anticipated Impacts and Mitigation measures

The Potential Impacts identified for the proposed project are as follows:

Construction Stage

Capital dredging

- Disturbance of bottom sediments and/ or Sediment re-suspension.
- Potential impacts are however short-term in nature; also, ALCJ is to be set up in area currently being used for Anchorage.

Construction material handling/ transportation of construction materials

- Generation of dust, vehicular noise, etc.
- Proposed development being ~ 3 kms away from the nearest human habitation, impacts on human environment is not envisaged.

Labour force

No site accommodation facilities will be provided to the workers. As such impacts due to the work force are not anticipated (Exploitation of water resources for domestic usage, disposal of untreated waste, etc.)

Construction of offshore structures on piles

- Use of pile drivers, boring equipment, power tools, suspended solids, turbidity, etc.
- Piling is proposed to be carried out by use of bored cast-in-situ concrete piles by use of a permanent liner by rotary Drilling. The structures being built on piles will not obstruct or block the natural flow of water in the area.

Operation Stage

Maintenance dredging

- Disturbance of bottom sediments and/ or Sediment re-suspension.
- Maintenance dredging is to be carried out in areas where ship movements are already happening and in the existing anchorage areas. As such no new area is likely to get impacted due to maintenance dredging.

Operations for handling Liquid bulk

- Accidental release

- Proposed development will only have receiving of liquid bulk and transfer via pipeline to land. Necessary safety measures will be in place; chances of accidents are extremely low.

JNPT has comprehensive oil spill abatement plan and disaster management plan. The port is fully equipped for such eventuality.

Vessel movements

- Discharge of bilge, cargo residues, operational wastes, waste water, impacts to fishing activities, etc.
- Ships/ vessels calling at Offshore ALCJ will not be permitted to dump the wastes
- Bilge water during the berthing period; sewage generated at the construction site will be handled by septic tanks
- Proposed facility is not envisaged to bring negative impacts or hindrance in movement of boats/ carrying out fishing activities.

1.8 Environmental Monitoring Plan

The adverse environmental impacts identified during the Environmental Impact Assessment process of the proposed project may increase during the construction as well as operation phase. Monitoring of environmental factors and constraints will enable us to identify the changes in the environmental impacts at various locations and their mitigative measures. To ensure the effective implementation of the EMP, monitoring of ambient air quality, analysis & monitoring of water environment and noise level will be carried out as required / specified by statutory authority.

1.9 Resettlement and Rehabilitation

The project is within the JNP area and there is no R & R.

1.10 DMP, Risk Assessment and Oil Spill Response Plan

JNPT has detailed procedures and Plan of Disaster Management (DMP), Risk Assessment (RA) and Oil Spill Response Plan prepared by third parties. All these plans are applicable for the entire JNPT area and these will be followed for the proposed project of additional Liquid Cargo Jetty.

1.11 Environment Management Plan

An Environmental Management Plan has been prepared for mitigation of the adverse impacts. The Environmental Management Plan describes in brief, the management's plan for proper and adequate implementation of treatment and control system for pollutants and for maintaining the environment. It also includes development of proper safety of workers, environmental monitoring plan, fire protection system and measures etc.

The total estimated cost of the proposed project is Rs. 309 Crore. Out of which, approximately Rs. 52 Lakhs has been allocated towards environmental management system/facilities.



1.12 CONCLUSION

The project is within the JNPT area and is accordance with the port operations. The implementation of this project will ease of high occupancy level in JNPT. This will have betteroperability and benefit in terms of economic devemoplment of country.

The project doesn't extending to any additional land area and their impacts on environmental parameters are very minimal.

The study brings out the following points.

- Negligible impacts will occur on air quality. However, all the necessary air pollution control measures will be provided.
- No adverse impacts will occur on water environment.
- Various other environmental parameters like Forest/National Park/Sanctuary and Religious/Historical Places will not be affected.

Thus, it can be concluded on a positive note that after the implementation of the mitigation measures and Environment Management Plan the normal operation of proposed project will have overall minor negative impact on environment and these impacts will be encountered with proper mitigative measures.