

F. No. 10-52/2020-IA.III
Government of India
Ministry of Environment, Forest and Climate Change
(Impact Assessment Division)

पत्तन योजना विभाग
आवक क्र. 227
दि.: 16/10/2020

Indira Paryavaran Bhawan,
Jor Bagh Road, Aliganj
New Delhi - 110 003

Dated: 7th October, 2020

To

The Chief Manager (PP&D)
Jawaharlal Nehru Port Trust, Admin Building
Sheva Uran Navi Mumbai -400707

MI

Sub: Development of Greenfield Port at Vadhavan, District Palghar, Maharashtra by M/s Jawaharlal Nehru Port Trust (JNPT) – Terms of Reference Regarding.

Sir,

This has reference to your online proposal submitted to this Ministry on 15th August 2020, seeking Terms of Reference (TOR) for the aforementioned project as per the provisions of the Environment Impact Assessment (EIA) Notification, 2006 and subsequent amendments under the Environment (Protection) Act, 1986.

2. The above mentioned proposal was considered by the Expert Appraisal Committee (EAC) for Infrastructure, CRZ and other miscellaneous projects in its 241st meeting on 25th - 26th August, 2020, in the Ministry of Environment, Forest and Climate Change, New Delhi.

3. The project proponent along with the EIA consultant M/s Global Management and Engineering Consultants International, made a presentation through video conferencing and provided the following information before the Committee:

(i) **Brief description of the Proposal:** The proposed project is to develop a deep draft all weather port at Vadhvan, District- Palghar Maharashtra. The new port as major port is notified under the Indian Port Act 1908 by Government of India and it would be developed as land lord Port jointly by JNPT and Maharashtra Maritime board (MMB) with a shareholding of 74% and 26% respectively. The total area of the Project area is 17,471 Ha out of which 16,900 Ha has been declared as Port Limit and 571 Ha outside port Limit. The Port Limit area has three components namely;

- Water front area 15363.5 Ha
- Reclamation of 1,473.0 ha for inter tidal zone
- Berth area 63.5 Ha

In addition to the above an area of 1,000 ha Govt Land has been earmarked for road and rail enabled services and port related infrastructure. The proposed project area lies in CRZ-I (A), CRZ I (B), CRZ – III and CRZ IV (A). The Estimated Project Cost is - Rs 65,544.54 Crs to be invested by SPV/ JV and Private Sector Concessionaires.

(ii) **Nature of project (New/Expansion/Amendment/Extension etc.):** New.

(iii) **Address of project site (Plot No./ Village/ Tehsil/ District/State):** Port project is located in foreshore and reclaimed land near Village Vadhavan, Tahsil: Dahanu, District-Palghar, Maharashtra.

(iv) **Geo-coordinates of project site:** A line drawn from the coast in Vadhavan region from. **Point A** (on the Coast): Lat. 19° 54' 26" N and Long. 72° 40' 34" E along the coast northward to **Point B** (on the Coast): Lat. 19° 57' 59" N, Long. 72° 42' 18" E including banks and shores up to high-water-marks and creeks within the line as far as navigable and into the sea westward to **Point C** (In territorial waters): Lat. 20° 0' 0" N Long. 72° 30' 0" E, then southward to **Point D** (in territorial waters): Lat. 19° 54' 5" N Long. 72° 30' 0" E and back to coordinate (A) on the coast.

(v) **Site alternatives under consideration:** NA.

(vi) **Area (ha)/Length (km) of the proposed project:** The total area of the Project area is 17, 471 Ha out of which 16,900 Ha has been declared as Port Limit and 571 Ha outside port Limit. The Port Limit are has three components namely;

- Water front area 15363.5 Ha
- Reclamation of 1,473.0 ha for inter tidal zone
- Berth area 63.5 Ha

In addition to the above an area of 1,000 ha Govt Land has been earmarked for road and rail enabled services and port related infrastructure.

(vii) **Connectivity to the site:** The site is 150 km away from Mumbai on Northern side and 150 Km away from Nashik and 180 km away from Surat on western and southern side. Vadhavan's primary hinterland includes the state of Maharashtra. The secondary hinterland comprises of Gujarat, Madhya Pradesh, Chhattisgarh and northern states. Hinterland of Vadhavan Port.

(viii) **Investment/Cost of the project:** 65,544.54 Crores.

(ix) **Item of Schedule to the EIA Notification, 2006:** 7(e) Ports, Harbours.

(x) **Applicability of General/Specific Conditions as per EIA Notification, 2006:** NA.

(xi) **Landuse/Landcover of project site in tabular form:** The project envisage Reclamation of 1473 Ha and Acquisition of 571 ha. Reclamation of 1473 ha in inter tidal zone proposed near the shore in levels ranging from +4.2m CD to -2 m CD and acquisition of 571 ha land for road and rail linkages is proposed. Acquisition of additional land area of 1000 ha of Govt Land is proposed for road and rail related infrastructure and other allied services of port i.e solar power, corridor for power and water pipelines, public amenities, housing for employees and emergency personnel etc.

(xii) **Landuse/Landcover around 10 km radius of project site (1 km in case of Highway projects):** The new land use plan envisages to provide port facilities which essentially comprises of Port and Port related activities. It is proposed reclaim 1473 ha land in intertidal zone near to shore in levels ranging from +4.2m CD to up to 2 m CD. As per new land use plan it also proposed to acquire 571 ha of land for road and rail linkages owned by Private, Government and Forest Department. In addition to above it is proposed to acquire Government land of 1000 ha is also proposed for rail and road allied services of port in addition to Port related infrastructure like solar power, corridor for power and water pipelines, public amenities, housing for employees and emergency personnel etc.

- (xiii) **Terrain and topographical features:** Topography of the intertidal zone is rocky and highly undulated. Casuarina plantations are observed along the shoreline. The bed levels in inter tidal zone are sloping west. The slope varies from 1:350 to as gentle as 1:2000 in some section Most of the rock at Vadhavan Point and off comprises rock of basaltic composition. The basaltic rock is dark grey, black and hard, tough and compact. The rock is susceptible to superficial weathering. Most part of the hard rock under the sea is weathered and degree of weathering varies from exposed rock to subsurface rock with subsurface rock more weathered than the exposed one.
- (xiv) **Details of water bodies, impact on drainage:** Port project is located in foreshore and reclaimed land. Changes in water bodies or the land surface affecting drainage or run-off have not been envisaged in this project.
- (xv) **Water requirements, sources (during construction and operation phases) and NOC:** Drinking water requirements will be met from State water supply Board i.e Maharashtra Jeevan Pradhikaran (MJP). The requirement for Drinking purpose is: 105KL/day (2630 peak manpowerX40 lit/day) Water required for Construction: (Peak): 800 KL/day.
- (xvi) **Groundwater extraction/usage and NOC/Clearance from CGWA/State Ground Water Department:** No ground water extraction is envisaged.
- (xvii) **Whether the project is in Critically Polluted area:** Tarapur MIDC which is declared as Critically Polluted Area by CPCB in the Year 2018 is located at 12 km from Project site.
- (xviii) **Tree cutting, types, numbers, girth size etc.:** NA.
- (xix) **Whether the project involves diversion of forest land:** NA.
- (xx) **Whether the project is located within 10 km of Protected Areas (PA) including National Parks, Sanctuaries and Tiger Reserves etc.:** NA.
- (xxi) **Whether the project is located within the Eco-Sensitive Zone (ESZ) or Eco-Sensitive Area (ESA) notified by the MoEF&CC:** NA.
- (xxii) **Whether project site is in CRZ area if yes furnish the CRZ map:** The proposed project area lies in CRZ-I (A), CRZ I (B), CRZ – III and CRZ IV (A) CRZ map is submitted.
- (xxiii) **STP: Provide details of treatment and usage of treated sewage with STP's capacity.:** The Mobile STP plant will be provided for construction workers and site office/ premises and the treated water will be reused. Under no circumstances Treated or untreated liquid waste will be disposed into marine water. During operation phase, separate STP with adequate capacity will be constructed based on realistic sewage generated. Treated Water will be used for gardening.
- (xxiv) **For projects related to Port and harbour, provide details on:**
- **Details of shore line change:** Mathematical Model Studies for Shoreline Changes has been carried out by CWPRS.
 - **Details of channel, breakwaters, dredging, disposal and reclamation.:** The project involves Dredging, reclamation, land filling and disposal of dredged material as follows: Dredging – 12.34 Million Cubic metre, Reclamation/ Land Filling – 1473 Ha (Murrum Filling/Earth) (86.88 Million Cubic metre), Disposal



– 12.43 Million Cubic Metre proposed to be disposed off in deep sea at 30 metre contour if not found suitable for land filling

- **Handling of each cargo, storage, transport along with spillage control, dust preventive measures:** Cargos are potential sources of dust and would contribute to fugitive dust emissions. The impacts due to dust emissions could be substantially managed by containment and reduction of emissions. The reduction in the emissions is achieved by continuous spraying of water so that the surface remains moist and the dust gets suppressed. In materials where the water spray would change the characteristics of the material by making it muddy and slushy, foam cover has been successfully used elsewhere in the world. Accordingly at the present facility, both water sprays and foam suppressants shall be used. It is proposed to install mechanized handling system and the other associated equipments such as hoppers, belt conveyors, stacker cum declaimers along with integrated dust suppression systems.
- **Details of fishing activity in the vicinity:** Vadhvan village and other nearby villages are known as Fishery villages. Major occupation of the villagers is fishing. Construction of Vadhvan port will likely to impact on fisheries on that region. After examination fisheries in the Vadhavan area, it is understood that Vadhavan shoreline have good fish catch and lobster culture practices. JNPT appointed Central Marine Fisheries Research Institute (CMFRI) to study possible impact on Coastal fisheries and to alternatives for fishing activities.

(xxv) **Brief description of Socio-economic condition of local people:** The Port has carried out Socio Economic Survey of 25 villages within 10 km radius of the proposed port and 16 villages along the road and rail connectivity. The port also carried out Impact Study on coastal fisheries. Findings of the reports will be taken care in this project. A details will be included in the EIA report.

(xxvi) **Land acquisition and R&R issues involved:** No land acquisition is required for port area as the port is planned off the coast of Vadhavan by reclaiming the land. Acquisition of additional land area of 1000 ha of Govt Land is proposed for road and rail related infrastructure and other allied services of port i.e solar power, corridor for power and water pipelines, public amenities, housing for employees and emergency personnel etc.

(xxvii) **Employment potential, No. of people to be employed:** Employment Generation, Direct employment: 1000 nos., Indirect employment: 6000 nos.

(xxviii) **Benefits of the project: Project Benefits:**

- The development is envisaged to play a significant role in strengthening connectivity along the Maharashtra coastline.
- Enhancement in economy of Maharashtra.
- Substantial positive impact on socio-economic profile of Vadhavan, in Particular, and Dahanu, in general, both in terms of overall employment and skill development of local workforce.
- Direct as well as indirect employment potential is envisaged.
- Probable augmentation in infrastructure resources such as transport, Communication, health facilities & other basic facilities.

Socio-Economical Benefits: The socio-economic scenario in the region will certainly change with positive impact on the existing regional socio-economic pattern. There will be change in employment pattern with local residents will be given preference for jobs opportunities and/or self-employment. The economic growth will have positive impact; it will also help in increase in living standards of the local residents. Due to

enhancement in infrastructure facilities and utilities in living condition will also improve. During the construction phase of the project, many persons are expected to be employed whereas during operation phase there will be lots of job openings. Most of these workers/staff are likely to be from the study area. Hence there shall be temporary minor positive impact on the employment.

(xxix) **Details of Court cases:** NA.

4. Based on the deliberations in the meeting and information provided by the proponent in support of the project, the EAC recommended for grant of TOR. As per the recommendation of the EAC, the Ministry of Environment, Forest and Climate Change hereby accords TOR for "Development of Greenfield Port at Vadhavan, District Palghar, Maharashtra by M/s Jawaharlal Nehru Port Trust (JNPT), and for preparation of EIA/EMP report with public consultations subject to compliance of all conditions as notified in the standard ToR applicable for highways and specific conditions, as mentioned below-

A. Project Specific Conditions

- (i) Environmental cost benefit analysis to be carried out and submitted in EIA/EMP report
- (ii) Submit a copy of layout superimposed on the HTL/LTL map demarcated by an authorized agency on 1:4000 scale.
- (iii) Recommendation of the Maharashtra CZMA.
- (iv) No POL Jetty is envisaged view eco sensitive location
- (v) NoC to be obtained from Dahanu Taluka Environment Protection Authority (DTEPA) as applicable
- (vi) Submit superimposing of latest CZMP as per CRZ (2011) on the CRZ map.
- (vii) Submit a complete set of documents required as per para 4.2 (i) of CRZ Notification, 2011.
- (viii) Hydrodynamics study on impact of dredging on flow characteristics.
- (ix) Flooding and related impact on creek and control area during the cyclonic storm should be studied.
- (x) The EIA would give a detailed analysis of the Impacts of storage and handling and the management plan including hazard mitigation measures of each cargo type along with the proposed compliance to the Hazardous Chemicals Storage rules.
- (xi) Study the impact of dredging and dumping on marine ecology and draw up a management plan through the NIO/NIOT or any other institute specializing in marine ecology.
- (xii) Ship Navigation studies for entrance channel and turning circle should be conducted for prevention of navigation hazards
- (xiii) Traffic forecast and congestion studies at roads connecting arterial roads to be conducted. Detail traffic density study to be conducted since lot of container movements are expected in & out of the proposed port.
- (xiv) Impact of port on shoreline changes and sea bed morphology to be conducted and mitigation measures for shore protection to drawn based on above studies.

- (xv) Details of Emission, effluents, solid waste and hazardous waste generation and their management in the existing and proposed facilities.
- (xvi) Requirement of water, power, with source of supply, status of approval, water balance diagram, man-power requirement (regular and contract).
- (xvii) Permission from CGWA in case of groundwater use being proposed for the project.
- (xviii) Wastewater Management Plan.
- (xix) Details of Environmental Monitoring Plan.
- (xx) To prepare a detailed biodiversity impact assessment report and management plan through the reputed institute such as NIO, NIOT or university having specialized skills on marine, brackish water ecology and biodiversity with focus on winter season. The report shall study the impact of the activity on the intertidal biotopes, corals and coral communities if present, molluscs, sea grasses, sea weeds, subtidal habitats, fishes, cetaceans and other marine and aquatic micro, macro and mega flora and fauna including benthos, plankton, turtles, birds etc. as also the productivity.. The data collection and impact assessment shall be as per standard survey methods.
- (xxi) Impact of undersea noise on cetaceans needs to be studied through the reputed institutes like NIO.
- (xxii) The concentrations of Petroleum Hydrocarbons in seawater at low tide and high tide conditions should be presented at proposed SPM site.
- (xxiii) A certificate from the competent authority for discharging treated effluent/ untreated effluents into the Public sewer/ disposal/drainage systems along with the final disposal point.
- (xxiv) A certificate from the local body supplying water, specifying the total annual water availability with the local authority, the quantity of water already committed, the quantity of water allotted to the project under consideration and the balance water available. This should be specified separately for ground water and surface water sources, ensuring that there is no impact on other users.
- (xxv) A certificate of adequacy of available power from the agency supplying power to the project along with the load allowed for the project.
- (xxvi) A certificate from the competent authority handling municipal solid wastes, indicating the existing civic capacities of handling and their adequacy to cater to the M.S.W. generated from project.
- (xxvii) An assessment of the cumulative impact of all development and increased inhabitation being carried out or proposed to be carried out by the project or other agencies in the core area, shall be made for traffic densities and parking capabilities in a 05 kms radius from the site. A detailed traffic management and a traffic decongestion plan drawn up through an organization of repute and specializing in Transport Planning shall be submitted with the EIA.
- (xxviii) Disaster Management Plan for the project.
- (xxix) Details and status of court case pending against the project, if any.
- (xxx) Public hearing to be conducted and issues raised and commitments made by the project proponent on the same should be included in EIA/EMP Report in the form of tabular chart with financial budget for complying with the commitments made.



- (xxxi) Plan for Corporate Environment Responsibility (CER) as specified under Ministry's Office Memorandum vide F.No. 22-65/2017-IA.III dated 1st May, 2018 shall be prepared and submitted along with EIA Report.
- (xxxii) A tabular chart with index for point-wise compliance of above ToRs.

B. General Conditions

- (i) Importance and benefits of the project.
- (ii) The EIA should cover the standard terms of reference for all sectors viz 7(e), 6(a) and 6(b) as applied for.
- (iii) The project proponents shall avail a clearance under the Forest Conservation Act, 1980 and the Wild life Protection Act, 1972 for any part of the proposed project within Forest Boundaries or Wild life Sanctuaries and National Parks.
- (iv) Submit a copy of layout superimposed on the HTL/LTL map demarcated by an authorized agency on 1:4000 scale.
- (v) Recommendation of the SCZMA.
- (vi) Certified Compliance Report issued by the MoEF&CC, Regional Office or concerned Regional Office of Central Pollution Control Board or the Member Secretary of the respective State Pollution Control Board for the conditions stipulated in the earlier environmental clearance issued for the project alongwith an action taken report on issues which have been stated to be partially complied or non/not complied.
- (vii) submit Stage-I Forest Clearance.
- (viii) Status of clearance from National Board of Wild Life (NBWL).
- (ix) Submit a complete set of documents required as per para 4.2 (i) of CRZ Notification, 2011.
- (x) The project proponents shall satisfactorily address to all the complaints/suggestions that have been received against the project till the date of submission of proposals for Appraisal.
- (xi) Various Dock and shipbuilding facilities with capacities for existing and proposed project.
- (xii) Study the impact of dredging on the shore line.
- (xiii) A detailed impact analysis of rock dredging.
- (xiv) Study the impact of dredging and dumping on marine ecology and draw up a management plan through the NIO or any other institute specializing in marine ecology.
- (xv) A detailed analysis of the physico-chemical and biotic components in the highly turbid waters round the project site (as exhibited in the Google map shown during the presentation), compare it with the physico-chemical and biotic components in the adjacent clearer (blue) waters both in terms of baseline and impact assessment and draw up a management plan.

- (xvi) Details of Emission, effluents, solid waste and hazardous waste generation and their management in the existing and proposed facilities.
- (xvii) The existing project should avail of and submit consent to operate from the State Pollution Control Board.
- (xviii) Requirement of water, power, with source of supply, status of approval, water balance diagram, man-power requirement (regular and contract).
- (xix) Wastewater management plan.
- (xx) Details of Environmental Monitoring Plan.
- (xxi) To prepare a detailed biodiversity impact assessment report and management plan through the NIOS or any other institute of repute on marine, brackish water and fresh water ecology and biodiversity. The report shall study the impact on the rivers, estuary and the sea and include the intertidal biotopes, corals and coral communities, molluscs, sea grasses, sea weeds, subtidal habitats, fishes, other marine and aquatic micro, macro and mega flora and fauna including benthos, plankton, turtles , birds etc. as also the productivity. The data collection and impact assessment shall be as per standard survey methods.
- (xxii) An assessment of the cumulative impact of all development and increased inhabitation being carried out or proposed to be carried out by the project or other agencies in the core area, shall be made for traffic densities and parking capabilities in a 05 kms radius from the site. A detailed traffic management and a traffic decongestion plan drawn up through an organization of repute and specializing in Transport Planning shall be submitted with the EIA. The Plan to be implemented to the satisfaction of the State Urban Development and Transport Departments shall also include the consent of all the concerned implementing agencies.
- (xxiii) Disaster Management Plan for the above terminal.
- (xxiv) Layout plan of existing and proposed Greenbelt.
- (xxv) Status of court case pending against the project.
- (xxvi) The E. I.A. would include a chapter on how the project conforms to the CRZ management plan being drawn up by the State Government in compliance to NGT orders
- (xxvii) A tabular chart with index for point wise compliance of above ToRs.
- (xxviii) Plan for Corporate Environment Responsibility (CER) as specified under Ministry's Office Memorandum vide F.No. 22-65/2017-IA.III dated 1st May 2018 shall be prepared and submitted along with EIA Report.

C. General guidelines

- (i) The EIA document shall be printed on both sides, as for as possible.
- (ii) All documents should be properly indexed, page numbered.
- (iii) Period/date of data collection should be clearly indicated.
- (iv) Authenticated English translation of all material provided in Regional languages.



- (v) The letter/application for EC should quote the MoEF&CC File No. and also attach a copy of the letter prescribing the TOR.
- (vi) The copy of the letter received from the Ministry on the TOR prescribed for the project should be attached as an annexure to the final EIA-EMP Report.
- (vii) The final EIA-EMP report submitted to the Ministry must incorporate the issues in TOR and that raised in Public Hearing. The index of the final EIA-EMP report, must indicate the specific chapter and page no. of the EIA-EMP Report where the specific TOR prescribed by Ministry and the issue raised in the P.H. have been incorporated. Questionnaire related to the project (posted on MoEF&CC website) with all sections duly filled in shall also be submitted at the time of applying for EC.
- (viii) Grant of TOR does not mean grant of EC.
- (ix) Grant of TOR/EC to the present project does not mean grant of approvals in other regulations such as the Forest (Conservation) Act 1980 or the Wildlife (Protection) Act, 1972.
- (x) Grant of EC is also subject to Circulars and Office Memorandum issued under the EIA Notification 2006 and subsequent amendments, which are available on the MoEF&CC website: www.envfor.nic.in.
- (xi) The status of accreditation of the EIA consultant with NABET/QCI shall be specifically mentioned. The consultant shall certify that his accreditation is for the sector for which this EIA is prepared.
- (xii) On the front page of EIA/EMP reports, the name of the consultant/consultancy firm along with their complete details including their accreditation, if any shall be indicated. The consultant while submitting the EIA/EMP report shall give an undertaking to the effect that the prescribed TOR (TOR proposed by the project proponent and additional TOR given by the MoEF) have been complied with and the data submitted is factually correct (Refer MoEF office memorandum dated 4th August, 2009).
- (xiii) While submitting the EIA/EMP reports, the name of the experts associated with/involved in the preparation of these reports and the laboratories through which the samples have been got analysed should be stated in the report. It shall clearly be indicated whether these laboratories are approved under the Environment (Protection) Act, 1986 and the rules made there under (Please refer MoEF office memorandum dated 4th August, 2009). The project Coordinator of the EIA study shall also be mentioned.
- (xiv) All the TOR points as presented before EAC shall be covered.

5. A detailed draft EIA/EMP report shall be prepared in terms of the above additional TOR and should be submitted to the State Pollution Control Board for Public Hearing. Public Hearing to be conducted for the project in accordance with the provisions of Environmental Impact Assessment Notification, 2006 and the issues raised by the public should be addressed in the Environmental Management Plan. The Public Hearing shall be conducted based on the TOR letter issued by the Ministry and not on the basis of Minutes of the Meeting available on the website.

6. The project proponent shall submit the detailed final EIA/EMP report prepared as per TOR including issues raised during Public Hearing to the Ministry for considering the proposal for environmental clearance before expiry of validity of TOR.

7. The consultants involved in preparation of EIA/EMP report after accreditation with Quality Council of India/National Accreditation Board of Education and Training (QCI/NABET) would need to include a certificate in this regard in the EIA/EMP reports prepared by them and data provided by other Organization(s)/Laboratories including their status of approvals etc. vide notification of the MoEF dated 19th July, 2013.
8. The prescribed TOR would be valid for a period of four years for submission of the EIA/EMP Reports.
9. This issues with the approval of Competent Authority.


(Amardeep Raju)
Scientist 'E'

Copy to:

1. Member Secretary, Maharashtra Pollution Control Board, Kalpataru Point, 3rd and 4th floor, Opp. PVR Cinema, Sion Circle, Mumbai-400 022.


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