



Government of India  
Ministry of Environment, Forest and Climate Change  
(Impact Assessment Division)

To,

The Head Environment  
Adani Hazira Port Pvt. Ltd.  
01st Floor, Infrastructure House, Nr. Mithakhali Circle, Navrangpura,  
Ahmedabad.,,Ahmedabad,Gujarat-380009

**Subject:** Grant of Environmental Clearance (EC) to the proposed Project Activity under the provision of EIA Notification 2006-regarding

Sir/Madam,

This is in reference to your application for Environmental Clearance (EC) in respect of project submitted to the Ministry vide proposal number IA/GJ/NCP/282727/2016 dated 19 Oct 2022. The particulars of the environmental clearance granted to the project are as below.

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|--|---|
| 1. EC Identification No.                   | EC23A033GJ168037  |
| 2. File No.                                | 10-47/2016-IA.III   |
| 3. Project Type                            | Expansion   |
| 4. Category                                | A   |
| 5. Project/Activity including Schedule No. | 7(e) Ports, Harbours  |
| 6. Name of Project                         | Expansion for Outer Harbour Development of Hazira Port (Gujarat) by M/s Adani Hazira Port Limited |
| 7. Name of Company/Organization            | Adani Hazira Port Pvt. Ltd.   |
| 8. Location of Project                     | Gujarat   |
| 9. TOR Date                                | 01 Aug 2017   |

The project details along with terms and conditions are appended herewith from page no 2 onwards.

Date: 16/02/2023

(e-signed)  
Amardeep Raju  
Scientist E  
IA - (INFRA-1 sector)

*Note: A valid environmental clearance shall be one that has EC identification number & E-Sign generated from PARIVESH. Please quote identification number in all future correspondence.*

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2. The above mentioned proposal was placed before the EAC in its 316<sup>th</sup> meeting during 15<sup>th</sup>-16<sup>th</sup> December, 2022. The project proponent along with the EIA consultant M/s Chola MS, Tamil Nadu has made a presentation through Video Conferencing.

3. The proposed project is for expansion of port through outer harbour development with 19 multi-purpose berths which can handle all kind of dry cargo, project cargo, container cargo, liquid cargo and cryogenic Gas up to (-) 160<sup>o</sup>C.

4. The M/s Adani Hazira Port Private Limited (AHPPL) has set up multipurpose port at Hazira. Port and related infrastructure facilities have been developed as per EC & CRZ clearance of 2003, 2007 and 2013. Master plan includes total 12 multi-purpose berths out of which 7 berths (two container berths, one coal berth, one liquid berth and three multipurpose berths) were proposed to be developed in first 5 years (2012-2017).

- i. Environmental and CRZ clearance issued by MoEF&CC, New Delhi vide letterNo.: 11-150/2010-IA.III dated 03<sup>rd</sup> May, 2013.
- ii. CRZ Clearance issued by MoEF&CC, New Delhi vide letter No.: 160-11/11/2003-IA.III dated 26<sup>th</sup>May, 2013.
- iii. Amendment in CRZ Clearance issued by MoEF&CC, New Delhi vide letter No.:J-16011/11/2003-IA-III, dated 12<sup>th</sup>June, 2003.
- iv. Amendment in CRZ/Environment Clearance issued by MoEF&CC, New Delhi vide letter No.: J-16011/11/2003-IA-III, dated 19<sup>th</sup> November, 2003.

5. AHPPL now propose an expansion of port through outer harbour development of total 19 multi-purpose berths which can handle all kinds of dry cargo, project cargo, container cargo, liquid cargo and Cryogenic Gas up to -160<sup>o</sup>C.

6. The proposed project falls under 7(e) - Ports, harbors, break waters, dredging, of the schedule to the EIA Notification, 2006 and its subsequent amendments. Total cost of the project is Rs. 14030.50 Crore. ToR for the project was granted vide letter No.10-47-2016-IA-III dated 1st August, 2017

7. Cumulative configuration (already approved and proposed expansion) of the Adani Hazira Port is given below.

<b>S. No</b>	<b>Number of berth</b>	<b>31 Nos (existing 12 and expansion 19)</b>
i	Cargo Handling Capacity	234 MMTPA (Existing 84 and expansion 150)
ii	Area of the project	1583.67 Ha. (Existing 873.27 and expansion 710.4)
iii	Water requirement	116.5 MLD (Existing 16.5 and Expansion 100 MLD)
iv	Desalination Capacity	115 MLD (Existing 15 MLD and expansion 100MLD)
v	Power requirement	940 MWh/Day (Existing 240 and Expansion 700)

8. Details of products to be handled in the proposed project in the tabular format; berth wise and product wise:

<b>Sr.</b>	<b>Type of Berth</b>	<b>Nos. of</b>	<b>Cargo to be handled</b>	<b>Cumulative</b>
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No		Berths		Cargo Handling capacity
1	Multi- Purpose Berth	17	a) Dry Bulk – Coal, Iron ore, limestone, timber & wood etc. b) Break Bulk - Machines/ Iron steel products/Break Bulk etc. c) Containers, Ro – Ro & Automobiles. d) Liquid Cargo - All Class A, B, C petroleum products and chemicals etc.	138 MMTPA
2	Gas/Cryogenic Cargo Berth (up to -162°C)	02	LNG, Propane, Butane, LPG, CNG, NG etc	12 MMTPA
	Total	19	-	150 MMTPA

9. The supporting facilities/ infrastructure proposed at Adani Hazira Port's Outer Harbour are as follows:

Dredging:	50 million m <sup>3</sup>
Jetty:	5600 m long for multipurpose cargo berths, 17 nos.
Jetty:	560 m long for liquid / Cryogenic Gas up to -160°C berths, 2 nos.
Navigation channel:	Up to (-) 21.0 m CD contour
Turning circle:	700 m diameter with (-) 21.0 m CD
Berth pockets dredged depth up to	(-) 21.0 m CD
Multipurpose cargo storage yard	285Ha
Breakwaters	6910m (2860m–Northern Breakwater; 4050m Southern Breakwater)
Liquid terminal	91Ha
Breakwaters	6910m (2860m–Northern Breakwater; 4050m Southern Breakwater)

10. Berth Facilities: The current proposal will develop two types of berths/jetty for the purpose of handling various cargoes in the Hazira Port. The details of proposed berths to be developed are as following:

S. No	Description of Berth/Jetty	Nos.	Total Length(m)	Capacity (MMTPA)
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1	Multipurpose berths	17	5600	138
2	Liquid/Gas Berths	2	560	12
Total		19	6160	150

11. The cargo handling capacities considered for the proposed berths planning are as follows:

Coal – Import	2750 TPH pre crane & 2 – 3 cranes/ berth
Coal – Export	5000 TPH per crane & 1 crane/berth
Container	32 moves/hr/crane & 1 move = 1.3 TEU
General and Break bulk cargo	1000 TPH per crane & 2 cranes/ berth
Fertilizer and FRM	1000 TPH per crane & 2 crane/berth
Liquid Cargo	350 TPH – 1800 TPH based on type of cargo

12. Terrain and Topographic Features: The proposed project is to be undertaken on the intertidal area and is naturally at an elevation ranging from 0 m to 1 m above mean sea level as per elevation profiles map generated from SRTM Digital Elevation Model (DEM) data Satellite image of 1 arc second. Based on the physiography map of the study area, it can be inferred that the elevation profile within the study area ranges from (-) 7m to 21m w.r.t MSL.

13. Water Bodies: Pond in Hazira Village located at the distance of 1.5 Km SE, Arabian Sea is located at the distance of 0 Km. No impacts are envisaged on the water bodies.

14. Waste Management: The wastes that could be generated during the construction phase are: construction waste, solid waste and hazardous waste. Construction and Demolition Wastes: There is no demolition proposed as part of this project. Wastewater Treatment: The domestic wastewater and effluent from the port activities upon development (existing inner harbour and proposed outer harbour) will be treated in the proposed STP of 2 MLD capacity and ETP of 2.5 MLD capacity respectively in addition to the existing approved STP of 2 MLD and ETP of 2.5 MLD. The overall capacity of existing and proposed STP will be 4 MLD and ETP will be 5 MLD, these facilities will be developed in phased manner upon development of AHPL. Currently, 0.075 MLD of STP has been developed and 0.050 MLD of ETP has been developed. The wastewater after treatment in ETP and STP will be used for dust suppression and greenbelt in the port. This will help in the reduction of freshwater usage inside the port. The construction wastes amounting to about 20 million tonnes per day or 300 tonnes per project in a month shall be disposed as per the guidelines of Construction and Demolition Rules, 2016.

15. Public hearing (PH)

S. No.	Date	Location	Name of District	Presided by
1.	19 <sup>th</sup> March, 2021	Adani Hazira Port, RORO Ferry Parking Area located at Hazira village,	Surat	District Magistrate

	Chorasi Tehsil, Surat District, Gujarat.	
Major issues raised	Job Opportunity, Pollution, CSR Activities, Impact to Fishermen, Land Acquisition, Healthcare and Medical Facility, Payment of Wages, Traffic, Railway lines for Cargo Transport, Disaster Management Center School Bus e.t.c.	
Compliance by the PP	<ul style="list-style-type: none"> <li>i. During Construction Phase Temporary Employment of 150 and Permanent Employment of 50 are proposed. During Operation Phase Temporary Employment of 2000 and Permanent Employment of 500 are proposed.</li> <li>ii. EMP Budget of 2896 crores is proposed for pollution control measures as Capital cost and 102 crores as recurring cost is proposed during construction and operation phase of the project.</li> <li>iii. Capital cost of 2 crores and recurring cost of 1.8 crores is proposed for greenbelt development during construction and operation phase of the project.</li> <li>iv. CSR Amount of 19.865 crores is spent from 2015 to 2020. In the same line CSR activities will be taken up in future after completion of proposed Outer Harbour Project.</li> <li>v. No Land Acquisition is envisaged.</li> <li>vi. The proposed activities for the Outer Harbour development would not hinder the fishing activity of the fishermen. CSR for Fisherman is being implemented since 2012 by AHPL and the same will continue after commencement of operation of Outer Harbour.</li> <li>vii. AHPL is planning to develop the railway line with GRIDE a joint venture of Government of Gujarat and Indian railway.</li> <li>viii. Traffic assessment study has been undertaken by an external agency to understand the ground reality and future changes required to mitigate any risk of traffic movement or congestion. Development of road &amp; rail connectivity and augmentation of cargo handling will further result in decongestion of traffic routes.</li> <li>ix. The wages to the workers will be paid as per the national and state norms.</li> </ul>	

16. Forest diversion: The instant project does not involves diverted forest land.
17. Tree cutting: No tree cutting is envisaged for the proposed project.
18. The project is not located within 10 km of Protected Areas (PA) including National Parks, Sanctuaries and Tiger Reserves etc.
19. Energy conservation measures: The electric power requirement during construction phase will be approximately 9000 kWh/day which will be sourced from the existing power source (GEB). Electricity requirement during operation phase will be around 7,00,000

kWh/day. It will also be sourced from GEB. However, Renewable energy source will be explored. During operation phase, power back up in form of DG sets will be available to the tune of approximately 25 MVA. Diesel consumption for the same will be approx. 200 Lit/hr.

20. Total 521.4 Ha back up area will be reclaimed by using dredge material for creating backup infrastructure, utilities, amenities, storage and other ancillary facilities. Total Dredging will be 50 Million m<sup>3</sup> for creating manoeuvring channel, basin and jetty with (-) 21 m CD draft. Construction of port basin in 189 Ha area. Rail sidings and road networks will be used for cargo evacuation.

21. The CRZ map for the proposed project has been prepared by Institute of Remote Sensing (IRS), Anna University, Chennai MoEF&CC Authorized Agency as per CRZ Notification, 2011. The proposed project site falls in the following CRZ Areas.

CRZ Classification	Area in Hectares (Ha.)
CRZ IA	34.36
CRZ IA (50m Mangrove Buffer Zone)	15.03
CRZ IB	216.81
CRZ III (NDZ)	33.13
CRZ IVA	169.46
CRZ IVB	0.06
Non-CRZ	39.15
<b>Total</b>	<b>508.00</b>

22. As per CRZ mapping carried out by IRS, majority of the proposed project area falls (386.27 Ha out of 468.85 Ha CRZ area) within the CRZ-IB and CRZ-IVA area. The CRZ- IA area @ 49.39 Ha (34.36 Ha mangrove and 15.03 ha mangrove buffer) falls within the proposed project boundary is mangrove / mangrove buffer.

23. Only permissible activity i.e. Utility Corridor (100 m) on piles/stilts will be developed in CRZ-IA area. Due to which only 0.3 Ha mangrove area will be impacted and AHPPL will conserve mangroves present in the proposed project boundary and compensatory afforestation of 100 Ha as recommended by GCZMA will also be carried out.

24. The proposal was appraised in the 62nd GCZMA meeting and GCZMA recommended the project to MoEF&CC vide letter No. ENV-10-2021-125-T dated 17/10/2022.

25. Land use within 7 km radius map (in 1:25000 scale) on approved CZMP with superimposition of proposed expansion project layout is submitted.

26. Dredging details: The proposed project will be majorly developed in the intertidal area by way of reclamation. For the purpose of the development of the proposed Outer Harbour the waterfront area will be dredged to tune of 50 Mm<sup>3</sup>; of this dredged spoil around 40 Mm<sup>3</sup> will be utilized for reclamation of project area and the remaining 10 Mm<sup>3</sup> spoil will be disposed in the identified dumping area that is located at a water depth greater than (-) 25 m CD and spatial extent of 7 km x 4km. The AHPL facility has an existing approved Oil Spill Contingent Management Plan, which will be adopted and strengthened for the proposed project also.

27. Marine disposal: To cater the water requirement of the proposed facility a 100 MLD feed water capacity desalination plant is proposed to be developed. Based on the plant's efficiency the maximum outfall from the plant is 2900 m<sup>3</sup>/hr however outfall modelling has been undertaken for 5000 m<sup>3</sup>/hr (worst case scenario) and based on the outfall modeling study it was inferred that Initial Rapid dilution of 84% is obtained at the point of outfall itself and Temporal maximum excess salinity is 0.17 ppt at the surface near outfall point (99% dilution). The maximum extent of salinity dispersion is 70 m towards offshore (west) and 2 km north towards the mouth of existing harbour from the outfall location which reaches the base value beyond this area. The quality of the outfall water will be monitored prior to discharge to check for any change in design chamber sticks.

28. Marine Ecological Impact Assessment study: The study has been carried out by Gujarat Institute of Desert Ecology (GUIDE) in July-2019. The study investigated and described the present marine ecological status of different components of the Hazira such phyto and Zooplankton, primary productivity (Chlorophyll 'a'), intertidal, subtidal macro fauna, mangroves and other halophytes and avifauna and other major biotic components in the vicinity of the project site. Evaluate in a systematic way the impact these major ecosystem components are likely to face in the light of the proposed development of AHPL. Based on the information gathered through baseline marine ecological studies in the vicinity of AHPL and the predicted impact, a holistic mitigation and management framework is suggested and prepared an environmental management plan in the background of the likely impact and to maintain long term environmental integrity in the surrounding area of the project site.

29. Land acquisition and R&R issues involved: Not applicable, as the proposed project will be developed within approved AHPL port limits.

30. Employment potential: during construction phase about 150 temporarily and 50 permanently people would be employed and during operation phase 2000 Temporary and 500 permanently would be employed. The project would also open both secondary and tertiary employment opportunity in the area.

31. Benefits of the project: Environmental benefits: Development of greenbelt and conservation of mangrove area falling with port boundary will enhance the biodiversity in the area. EMP for ensuring no impact on the environment. Social benefits: The project would generate employment in the region for both skilled and unskilled workers. Financial benefits: The Port expansion via development of Outer Harbour would aid the port to achieve its overall future envisaged capacity leading to increased revenue generation & contributing to the state's and nation's GDP.

32. Details of Court Cases: Essar Bulk Terminal Limited (EBTL) has filed petition, viz. Special Civil Application No.8356 of 2016 before the Hon'ble Gujarat High Court, inter alia, challenging the Notification dated 18<sup>th</sup> January, 2016 of Government of Gujarat extending the port limits of Hazira Port. After completion of hearing Hon'ble High Court of Gujarat has dismissed the SCA 8356 of 2016 filed by the M/s EBTL. Stating in its order that ".....there is no merit in the petition to invalidate the impugned Notification by judicial review in this petition filed under Article 226 of the Constitution of India." Subsequently a Special Leave Petition (SLP) 2406 of 2018 was filed in the Hon'ble Supreme Court challenging the same Notification dated 18<sup>th</sup> January, 2016 of Government of Gujarat extending the port limits of Hazira Port. On completion of hearing the Hon'ble Supreme Court citing that the notification for extension of port limit was issued in public interest has dismissed the

petition of EBTL. Hazira Machhimar Samiti (HMSS) challenged the EC & CRZ clearance granted to M/s Adani Hazira Port Private Limited for expansion of Hazira Port for handling and storage of various cargo vide letter dated 3rd May, 2013 bearing F. No. 11- 150/2010-IA.III. Further, in Appeal No. 79 of 2013, National Green Tribunal, Pune has set aside the EC & CRZ clearance dated 3rd May, 2013 vide their order dated 8th January, 2016. AHPL filed a Civil Appeal No. 256 of 2016 on 14th January, 2016 before the Hon'ble Supreme Court of India challenging the above-mentioned order dated 8th January, 2016 of the NGT, Pune. The Hon'ble Supreme Court of India heard the matter and on 28th January, 2016 and directed Company to deposit the amount of INR 25 Cr before the Collector, Surat, subject to final order in the matter pending before the Supreme Court. The Company has deposited the same as per the directives. Subsequently the case was disposed of on 23rd April 2018 after a settlement was reached between AHPL and fisherman group. The Hon'ble Supreme Court in its judgment reversed the NGT judgment and upheld the EC and CRZ clearance of AHPL, and also directed that the amount deposited (INR 25 Crore) with collector Surat to be refunded to AHPL with interest.

33. The EAC based on the information submitted and clarification provided by the project proponent and detailed discussions held on all the issues in its 316th meeting during 15th – 16th December, 2022 recommended the project for grant of Environmental Clearance and CRZ clearance with stipulated specific conditions along with other Standard Environmental clearance conditions.

34. The Ministry of Environment, Forest and Climate Change has considered the proposal based on the recommendations of the Expert Appraisal Committee (Infrastructure, CRZ and other Miscellaneous projects) and hereby decided to grant Environmental Clearance for the “Expansion of Outer Harbour by development of 19 multi-purpose berths at Hazira Port (Gujarat) by M/s Adani Hazira Port Limited” under the EIA Notification, 2006 as amended and CRZ Notification 2011, subject to strict compliance of the following specific conditions, in addition to all standard conditions applicable for such projects.

#### **SPECIFIC CONDITIONS**

- i. Construction activity shall be carried out strictly according to the provisions of the CRZ Notification, 2011. No construction works other than those permitted in Coastal Regulation Zone Notification shall be carried out in Coastal Regulation Zone area.
- ii. All the recommendations and conditions specified by the Gujarat State Coastal Zone Management Authority (GCZMA) vide letter No ENV-10-2021 dated 17th October, 2022 shall be complied with.
- iii. Consent to Establish/Operate for the project shall be obtained from the State Pollution Control Board as required under the Air (Prevention and Control of Pollution) Act, 1981 and the Water (Prevention and Control of Pollution) Act, 1974.
- iv. The project proponent shall comply with the air pollution mitigation measures as submitted.
- v. The Project proponent shall ensure that no creeks or rivers are blocked due to any activities at the project site and free flow of water is maintained.
- vi. No underwater blasting is permitted.
- vii. Necessary approvals to be taken during implementation and commissioning from statutory bodies concerned.

- viii. Spillage of fuel / engine oil and lubricants from the construction site are a source of organic pollution which impacts marine life, particularly benthos. This shall be prevented by suitable precautions and also by providing necessary mechanisms to trap the spillage.
- ix. While carrying out dredging, an independent monitoring shall be carried out by Government Agency/Institute to check the impact and necessary measures shall be taken on priority basis if any adverse impact is observed.
- x. All the recommendations mentioned in the risk assessment report, disaster management plan and safety guidelines shall be implemented.
- xi. Marine Ecological Impact Assessment study has been carried out by Gujarat Institute of Desert Ecology (GUIDE) in July-2019. All the recommendations made in the Marine Ecological Impact Assessment study conducted by the GUIDE shall be implementing and the implementation report shall be submitted to the concern IRO, MoEFCC.
- xii. GUIDE will continue to monitor the status of the site and adjoining areas of about 5 km radius during the construction of entire phase and atleast 5 years post-construction and operation phase to ascertain the changes in the benthic and other marine flora and fauna composition and migratory and other avifauna. The report of the same will be submitted to the regional office of the Ministry. GUIDE will provide mitigation measures in case of any impacts envisaged. PP will make adequate financial provision under EMP for the monitoring and mitigation measures.
- xiii. Necessary approvals to be taken during implementation and commissioning from statutory bodies concerned.
- xiv. Shoreline should not be disturbed due to dumping.
- xv. A continuous monitoring programme for fisheries will be undertaken by a competent and Nationally recognized Institutes/reowned Universities with rich experiences in marine ecology and fisheries.
- xvi. Continuous online monitoring of air and water covering the total area shall be carried out and the compliance report of the same shall be submitted along with the 6 monthly compliance reports to the regional office of MoEF&CC.
- xvii. Sediment concentration should be monitored fortnightly at source and disposal location of dredging while dredging using automated system.
- xviii. Spillage of fuel / engine oil and lubricants from the construction site are a source of organic pollution which impacts marine life, particularly benthos. This shall be prevented by suitable precautions and also by providing necessary mechanisms to trap the spillage.
- xix. Necessary arrangements for the treatment of the effluents and solid wastes/ facilitation of reception facilities under MARPOL must be made and it must be ensured that they conform to the standards laid down by the competent authorities including the Central or State Pollution Control Board and under the Environment (Protection) Act, 1986. The provisions of Solid Waste Management Rules, 2016. E-Waste Management Rules, 2016, and Plastic Waste Management Rules, 2016 shall be complied with.
- xx. Dredging, etc will be carried out in the confined manner to reduce the impacts on marine environment. Dredged material shall be disposed safely in the designated



- areas. The quantity of disposal/reclamation material should be reported against the quality of dredging.
- xxi. Dredging shall not be carried out during the fish breeding season and during turtle nesting seasons in adjoining areas.
  - xxii. Periodical study on shore line changes shall be conducted for 5 km on either side of the port including estuaries/tidal inlets and mitigation carried out, if necessary by a reputed national institute and mitigation carried out by PP, if necessary. Monitoring will be carried out during the construction and atleast 10 years post-construction and operation phase. The details shall be submitted along with the six monthly monitoring report.
  - xxiii. All the recommendations mentioned in the risk assessment report, disaster management plan and safety guidelines shall be implemented. SoP for Oil Spillage prevention and mitigation measures shall be prepared and made available at site for implementation. In case of oil spillage/contamination, Emergency Preparedness Plan shall be in place. To clean the site from contamination and pollution of marine/coastal waters, treatment of shall be adopted with proven technology.
  - xxiv. The recyclable waste (oily sludge) and spent oil shall be disposed of to the authorised recyclers. Necessary arrangement for general safety and occupational health of people should be done in letter and spirit.
  - xxv. As per the Ministry's Office Memorandum F. No. 22-65/2017-IA.III dated 30th September, 2020, the project proponent shall abide by all the commitments made by them to address the concerns raised during the public consultation. The project proponent shall initiate the activities proposed by them, based on the commitment made in the public hearing, and incorporate in the Environmental Management Plan and submit to the Ministry. All other activities including pollution control, environmental protection and conservation, R&R, wildlife and forest conservation/protection measures including the NPV, Compensatory Afforestation etc, either proposed by the project proponent based on the social impact assessment and R&R action plan carried out during the preparation of EIA report or prescribed by EAC, shall also be implemented and become part of EMP.

## **Annexure B**

### **STANDARD CONDITIONS:**

#### **I. Statutory compliance:**

- (i) Construction activity shall be carried out strictly according to the provisions of CRZ Notification, 2011 and the State Coastal Zone Management Plan as drawn up by the State Government. No construction work other than those permitted in Coastal Regulation Zone Notification shall be carried out in Coastal Regulation Zone area.
- (ii) A certificate of adequacy of available power from the agency supplying power to the project along with the load allowed for the project should be obtained.
- (iii) All other statutory clearances such as the approvals for storage of diesel from Chief Controller of Explosives, Fire Department, Coast Guard, Civil Aviation Department shall be obtained, as applicable by project proponents from the respective competent authorities.

#### **II. Air quality monitoring and preservation:**



- (i) The project proponent shall install system to carryout Ambient Air Quality monitoring for common/criterion parameters relevant to the main pollutants released (e.g. PM<sub>10</sub> and PM<sub>2.5</sub> in reference to PM emission, and SO<sub>2</sub> and NO<sub>x</sub> in reference to SO<sub>2</sub> and NO<sub>x</sub> emissions) within and outside the project area at least at four locations, covering upwind and downwind directions.
- (ii) Appropriate Air Pollution Control (APC) system shall be provided for all the dust generating points including fugitive dust from all vulnerable sources, so as to comply prescribed emission standards.
- (iii) Shrouding shall be carried out in the work site enclosing the dock/proposed facility area. This will act as dust curtain as well achieving zero dust discharge from the site. These curtain or shroud will be immensely effective in restricting disturbance from wind in affecting the dry dock operations, preventing waste dispersion, improving working conditions through provision of shade for the workers.
- (iv) Dust collectors shall be deployed in all areas where blasting (surface cleaning) and painting operations are to be carried out, supplemented by stacks for effective dispersion.
- (v) The Vessels shall comply the emission norms prescribed from time to time.
- (vi) Diesel power generating sets proposed as source of backup power should be of enclosed type and conform to rules made under the Environment (Protection) Act, 1986. The height of stack of DG sets should be equal to the height needed for the combined capacity of all proposed DG sets. Use of low sulphur diesel. The location of the DG sets may be decided with in consultation with State Pollution Control Board.
- (vii) A detailed traffic management and traffic decongestion plan shall be drawn up to ensure that the current level of service of the roads within a 05 kms radius of the project is maintained and improved upon after the implementation of the project. This plan should be based on cumulative impact of all development and increased habitation being carried out or proposed to be carried out by the project or other agencies in this 05 Kms radius of the site in different scenarios of space and time and the traffic management plan shall be duly validated and certified by the State Urban Development department and the P.W.D./ competent authority for road augmentation and shall also have their consent to the implementation of components of the plan which involve the participation of these departments.

### **III. Water quality monitoring and preservation:**

- (i) The Project proponent shall ensure that no creeks or rivers are blocked due to any activities at the project site and free flow of water is maintained.
- (ii) Appropriate measures must be taken while undertaking digging activities to avoid any likely degradation of water quality. Silt curtains shall be used to contain the spreading of suspended sediment during dredging within the dredging area.
- (iii) No ships docking at the proposed project site will discharge its on-board waste water untreated in to the estuary/ channel. All such wastewater load will be diverted to the proposed Effluent Treatment Plant of the project site.



- (iv) Measures should be taken to contain, control and recover the accidental spills of fuel and cargo handle.
- (v) Total fresh water use shall not exceed the proposed requirement as provided in the project details. Prior permission from competent authority shall be obtained for use of fresh water.
- (vi) 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 should be obtained.
- (vii) No diversion of the natural course of the river shall be made without prior permission from the Ministry of Water resources.
- (viii) All the erosion control measures shall be taken at water front facilities. Earth protection work shall be carried out to avoid erosion of soil from the shoreline/boundary line from the land area into the marine water body.

#### **IV. Noise monitoring and prevention:**

- (i) Noise level survey shall be carried as per the prescribed guidelines and report in this regard shall be submitted to Regional Officer of the Ministry as a part of six-monthly compliance report.
- (ii) Noise from vehicles, power machinery and equipment on-site should not exceed the prescribed limit. Equipment should be regularly serviced. Attention should also be given to muffler maintenance and enclosure of noisy equipments.
- (iii) Acoustic enclosures for DG sets, noise barriers for ground-run bays, ear plugs for operating personnel shall be implemented as mitigation measures for noise impact due to ground sources.
- (iv) The ambient noise levels should conform to the standards prescribed under E(P)A Rules, 1986 viz. 75 dB(A) during day time and 70 dB(A) during night time.

#### **V. Energy Conservation measures:**

- (i) Provide solar power generation on roof tops of buildings, for solar light system for all common areas, street lights, parking around project area and maintain the same regularly;
- (ii) Provide LED lights in offices and project areas.

#### **VI. Waste management:**

- (i) Shoreline should not be disturbed due to dumping. Periodical study on shore line changes shall be conducted and mitigation carried out, if necessary. The details shall be submitted along with the six monthly monitoring reports.
- (ii) Necessary arrangements for the treatment of the effluents and solid wastes must be made and it must be ensured that they conform to the standards laid down by the competent authorities including the Central or State Pollution Control Board and under the Environment (Protection) Act, 1986.
- (iii) The solid wastes shall be managed and disposed as per the norms of the Solid Waste Management Rules, 2016.



- (iv) Any wastes from construction and demolition activities related thereto shall be managed so as to strictly conform to the Construction and Demolition Waste Management Rules, 2016.
- (v) A certificate from the competent authority handling municipal solid wastes should be obtained, indicating the existing civic capacities of handling and their adequacy to cater to the M.S.W. generated from project.
- (vi) Used CFLs and TFLs should be properly collected and disposed off/sent for recycling as per the prevailing guidelines/ rules of the regulatory authority to avoid mercury contamination.
- (vii) Oil spill contingency plan shall be prepared and part of DMP to tackle emergencies. The equipment and recovery of oil from a spill would be assessed. Guidelines given in MARPOL and Shipping Acts for oil spill management would be followed. Mechanism for integration of terminals oil contingency plan with the overall area contingency plan under the co-ordination of Coast should be covered.

#### **VII. Green Belt:**

- (i) Green belt shall be developed in area as provided in project details with a native tree species in accordance with CPCB guidelines.
- (ii) Top soil shall be separately stored and used in the development of green belt.

#### **VIII. Marine Ecology:**

- (i) Dredging shall not be carried out during the fish breeding and spawning seasons.
- (ii) Dredging, etc shall be carried out in the confined manner to reduce the impacts on marine environment.
- (iii) The dredging schedule shall be so planned that the turbidity developed is dispersed soon enough to prevent any stress on the fish population.
- (iv) While carrying out dredging, an independent monitoring shall be carried out through a Government Agency/Institute to assess the impact and necessary measures shall be taken on priority basis if any adverse impact is observed.
- (v) A detailed marine biodiversity management plan shall be prepared through the NIO or any other institute of repute on marine, brackish water and fresh water ecology and biodiversity and submitted to and implemented to the satisfaction of the State Biodiversity Board and the CRZ authority. The report shall be based on a study of the impact of the project activities on the intertidal biotopes, corals and coral communities, molluscs, sea grasses, sea weeds, sub-tidal 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 standards survey methods and include underwater photography.
- (vi) Marine ecology shall be monitored regularly also in terms of sea weeds, sea grasses, mudflats, sand dunes, fisheries, echinoderms, shrimps, turtles, corals, coastal vegetation, mangroves and other marine biodiversity components including all micro, macro and mega floral and faunal components of marine biodiversity.
- (vii) The project proponent shall ensure that water traffic does not impact the aquatic wildlife sanctuaries that fall along the stretch of the river.

#### **IX. Public hearing and human health issues:**



- (i) The work space shall be maintained as per international standards for occupational health and safety with provision of fresh air respirators, blowers, and fans to prevent any accumulation and inhalation of undesirable levels of pollutants including VOCs.
- (ii) Workers shall be strictly enforced to wear personal protective equipments like dust mask, ear muffs or ear plugs, whenever and wherever necessary/ required. Special visco-elastic gloves will be used by labour exposed to hazards from vibration.
- (iii) In case of repair of any old vessels, excessive care shall be taken while handling Asbestos & Freon gas. Besides, fully enclosed covering should be provided for the temporary storage of asbestos materials at site before disposal to CTSDF.
- (iv) Safety training shall be given to all workers specific to their work area and every worker and employee will be engaged in fire hazard awareness training and mock drills which will be conducted regularly. All standard safety and occupational hazard measures shall be implemented and monitored by the concerned officials to prevent the occurrence of untoward incidents/ accidents.
- (v) Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented.
- (vi) Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.
- (vii) Occupational health surveillance of the workers shall be done on a regular basis.

#### **X. Environment Responsibility:**

- (i) The company shall have a well laid down environmental policy duly approved by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental / forest /wildlife norms/ conditions. The company shall have defined system of reporting infringements / deviation / violation of the environmental / forest / wildlife norms / conditions and / or shareholders / stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report.
- (ii) A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly report to the head of the organization.
- (iii) Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall be prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the Ministry/Regional Office along with the Six Monthly Compliance Report.
- (iv) Self environmental audit shall be conducted annually. Every three years third party environmental audit shall be carried out.

#### **XI. Miscellaneous:**

- (i) The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by

prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.

- (ii) The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.
- (iii) The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.
- (iv) The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.
- (v) The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.
- (vi) The criteria pollutant levels namely; PM<sub>2.5</sub>, PM<sub>10</sub>, SO<sub>2</sub>, NO<sub>x</sub> (ambient levels) or critical sectoral parameters, indicated for the project shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.
- (vii) The project proponent shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities, commencing the land development work and start of production operation by the project.
- (viii) The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.
- (ix) The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.
- (x) No further expansion or modifications in the project shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC).
- (xi) Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.
- (xii) The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory under the provisions of the Environmental (Protection) Act, 1986, to ensure effective implementation of the suggested safeguard measures in a time bound and satisfactory manner.
- (xiii) The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.
- (xiv) The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.
- (xv) The above conditions shall be enforced, inter-alia under the provisions of the Water

(Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India / High Courts and any other Court of Law relating to the subject matter.

(xvi) Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

35. This issues with the approval of the Competent Authority.



(Amardeep Raju)  
Scientist-E

Copy to:

1. The Secretary, Forests and Environment Department, Government of Gujarat, Block 14, 8<sup>th</sup> Floor, Sachivalaya, Gandhinagar (Gujarat)-10
2. The Deputy Director General of Forests (C), Ministry of Environment, Forest and Climate Change, Integrated Regional Office, Gandhi Nagar, A-Wing – 407 & 409, Aranya Bhawan, Near CH-3 Circle, Sector-10A, Gandhi Nagar – 382010.
3. The Member Secretary, Gujarat Coastal Zone Management Authority Block No: 14/8th Floor, New Sachivalaya, Sector - 10A, Gandhinagar.
4. The Member Secretary, Central Pollution Control Board, Parivesh Bhawan, CBD-cum-Office Complex, East Arjun Nagar, Delhi-32.
5. The Member Secretary, Gujarat Pollution Control Board, Paryavaran Bhavan, Sector-10A, Gandhinagar (Gujarat)-10.
6. Monitoring Cell, MoEF&CC, Indira Paryavaran Bhavan, New Delhi.
7. Guard File/Record File.
8. Notice Board.



(Amardeep Raju)  
Scientist-E

**Signature Not Verified**  
Digitally signed by Amardeep Raju  
Scientist E  
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