

File No.: 10-45/2017-IA.III
Government of India
Ministry of Environment, Forest and Climate Change
(Impact Assessment Division)

Indira Paryavaran Bhawan,
Jor Bagh Road, Ali Ganj
New Delhi – 110 003

Dated: 14th October, 2020

To

Deputy General Manager (Env)
M/s Gujarat Maritime Board,
"Sagar Bhavan", Sector 10/A,
Opp: Air force Station, Sachivalaya,
Gandhinagar-382010 (Gujarat).

Subject: Development of Coast Guard Jetty and allied facilities within existing Okha Port, Okha, Devbhumi Dwarka, Gujarat by M/s Gujarat Maritime Board (GMB)– Environmental and CRZ Clearance

Sir,

This has reference to your online proposal to this Ministry on 20th Jul 2020 in favour of Environmental Clearance for Development of Coast Guard Jetty and allied facilities within existing Okha Port, Okha, Devbhumi Dwarka, Gujarat by M/s Gujarat Maritime Board, Gandhinagar over an extent of 6.0128 ha area at, Gujarat. at Village - Okha, Tehsil – Okha mandal, District- Devbhumi Dwarka, State -Gujarat.

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 25-26th August, 2020.

3. The project proponent along with the EIA consultant M/s Cholamandalam MS Risk Services Ltd, made a presentation through Video Conferencing and provided the following information:

(i) **Brief description of the Proposal:** M/s Gujarat Maritime Board, Gandhinagar, Gujarat had proposed the Development of Coast Guard Jetty and allied facilities within existing Okha Port, Okha, Devbhumi Dwarka by M/s Gujarat Maritime Board, Gandhinagar over an extent of 6.0128 ha at Village - Okha, Tehsil - Okhamandal, District- Devbhumi Dwarka, State -Gujarat. Gujarat Maritime Board (GMB), as a Statutory Organization of Government of Gujarat has planned to facilitate a dedicated berthing facility and other supporting amenities for Indian Coast Guard (ICG) within the existing Okha port. Due to the increasing cargo demand in the region, GMB has also planned to increase the current cargo handling capacity of the Okha port by extending the existing lighter wharf, mechanization of port and increase the current cargo handling capacity from 6 to 10 MTPA. The Okha Port only handles dry bulk cargo and no liquid cargo is being handled at the port. The proposed project also includes reclamation of existing port facilities for providing supporting amenities and beautification aspects for the proposed ICG Jetty and existing passenger Jetty. Construction of Indian Coast Guard (ICG) hall, passenger waiting hall and open parking area will be undertaken in the proposed reclamation area to a tune of 1188 sq.m. within the Okha port boundary. The Okha port will be mechanized to increase the



efficiency of port's cargo handling operations and enhanced environmental management practices. Port mechanization includes instalment of closed conveyor system, DFDS system, hopper and automated water sprinkler system, etc. As part of the proposed EMP a STP of 100 KLD capacity is recommended to be developed to treat the domestic waste water generated from the existing and proposed port facilities and the treated waste water will be utilized for greenbelt development, dust suppression, etc. The dredge spoil from capital dredging will also be utilized for reclamation of the proposed Govind Ghat (lighter wharf) area in addition to reclamation of 2.16 ha back-up area of proposed ICG jetty and existing passenger jetty. Excess materials if any will be disposed-off into the offshore location identified based on the dredge spoil disposal study at depth beyond 20m w.r.t msl. The sediment from maintenance dredging will be disposed-off in the same location and based on the dredge disposal study none of the sediments reach the shore indicating no impact to shoreline.

The proposed developments in Okha port premises are:

- Construction of ICG jetty of size 200 x 20 m, approach trestle to ICG jetty of size 120 x 50 m
- Extension of Govind Ghat (lighter wharf) by 40 x 15.45 m
- Dismantling of existing wall of 26 m long and 3 m height,
- Reclamation of 1.26 Ha and beautification of reclaimed area near existing passenger jetty
- Reclamation of 0.9 Ha and beautification of reclaimed area near proposed ICG Jetty
- Earthwork and construction of civil structures in the back up area
- Capital dredging of 3,41,250 m³ for berthing facility up to 8 m CD and Maintanencedredging will be carried out as and when required to the tune of 34125 m³
- Increase in cargo handling capacity of Okha Port from 6 MTPA to 10 MTPA.

The ToR for the proposal was issued on 11 Sep 2017. The required EIA studies were undertaken and Public Hearing was conducted on 02nd Nov 2018. The project was recommended by Gujarat Coastal Zone Management Authority (GCZMA) *vide* letter No. ENV-10-2019-152-T cell dated 20th May 2020 and was appraised to the EAC for obtaining Environment and CRZ clearance for the proposed project Development of Coast Guard Jetty and allied facilities within existing Okha Port, Okha, Devbhumi Dwarka, Gujarat.

- (ii) **Nature of project (New/Expansion/Amendment/Extension etc.):** The proposed project is for Expansion.
- (iii) **Whether the proposal was considered in earlier meetings of EAC:** No.
- (iv) **Address of project site (Plot No./Village/ Tehsil/ District/State):** Survey No- 569, Village - Okha, Tehsil - Okhamandal, District- Devbhumi Dwarka, State -Gujarat.
- (v) **Geo-coordinates of project site: Bounded Latitudes (North):** FROM 22.464544 To 22.474731, Bounded Longitudes (East): FROM 69.075531 To 69.083197.
- (vi) **Area (ha)/Length (km) of the proposed project:** 6.0128 ha.
- (vii) **Connectivity to the site:** Okhamandal tehsil has good road and rail connectivity with broad gauge rail system that reaches upto Okha town. State Highway (SH-6A) is the major state road connectivity for the Okha port, National Highway (NH-8E) is about 28 km from the port.
- (viii) **Investment/Cost of the project:** The total cost of the project is ₹107.76 Crores.
- (ix) **Item of Schedule to the EIA Notification, 2006:** The proposed project is categorized under 7(e) Ports & Harbours of Schedule of EIA Notification, 2006.

(x) **Landuse/Landcover of project site in tabular form:**

S. No	Landuse/Landcover	Area (ha)	Percentage (%)
1	Waterfront development & Backup area (port limit)	28.15	27.40
2	Passenger Jetty and associated Facilities	3.84	3.74
3	Port Colony	18.56	18.06
4	Marshaling Yard	13.16	12.81
5	Undeveloped area	39.04	38
	Total	102.75	100

(xi) **Landuse/Landcover around 10 km radius of project site (1 km in case of Highway projects):**

S. No	Landuse / land Cover		Area (ha)	%
	Level I	Level II		
1	Built-up land	Built-Up Land	1159	17.8
2	Agricultural Land	Crop Land	1186	18.21
		Fallow Land	925	14.2
3	Waste land	Land with Scrub	366	5.62
		Land with Scrub - Sandy area	208	3.19
		Land without Scrub	337	5.17
		Coastal Wetland	317	4.87
		Salt affected Land	164	2.52
		Salt Pan	956	14.68
		Island	8	0.12
		Mangroves	145	2.23
4	Forest Land	Scrub Forest	572	8.78
5	Water bodies	Water body	170	2.61
		Total	6513	100

(xii) **Terrain and topographical features:** Physio graphically the district can be divided into the following units: Hilly areas and Coastal & alluvial Plains. Jamnagar, Jodiya, Khambaliya and Kalyanpur talukas are characterized by plain topography, whereas Jam Jodphur, Lalpur and Bhanwad talukas are characterised by hilly terrains. Cliffs are found in the Dwarka taluka with height upto 30m. Barda, Alech, Gop etc are famous hill ranges in the district. Mount Venu is the highest summit of Barda hills that attains a height of 617.1 meters. Okha Rann is a low-lying marshy area. Low coastal dunes and sand banks run along the north and west coasts. Jamnagar, Jodiya and Kalyanpur are plain areas. The Study area exhibits plain terrain. The minimum and maximum elevation of the study area (10 km radius) is 0 and 26 m above MSL (Mean Sea Level) respectively. The Project site is located about 6 to 8 m above MSL. Major topographical features within the study area are crop and fallow land, scrub land, salt affected land, water bodies – Gulf of Kutch, ponds, reserve forest, built-up lands, etc.

(xiii) **Details of water bodies, impact on drainage, if any:** Gulf of Kutch at 0 Km, Arambhada backwater at 1.65km towards SW, Ponds in Surajkaradi at 6.64km towards SW, Ponds in

Hamsura at 9.15 km towards S. No impacts on the drainage are expected due to proposed project as the project components will be developed within the existing port facility.

- (xiv) **Water requirements, sources (during construction and operation phases) and NOC:** The existing port facility has a water supply of 450 cubic meters per day from the Gadechi Water Works which is under the control of Gujarat Water Supply and Sewerage Board (GWSSB). The existing source quantity of 450 cubic meters per day is sufficient for the proposed project activity also; hence no additional water will be required during both construction and operation phase of the project.
- (xv) **Groundwater extraction/usage and NOC/Clearance from CGWA/State Ground Water Department:** No groundwater will be extracted/utilized for the proposed project. The port has an existing water supply of 450 cubic meters per day from the Gadechi Water Works, which is under the control of Gujarat Water Supply and Sewerage Board (GWSSB). The same will be utilized for the proposed project also, with no additional water requirement.
- (xvi) **Whether the project is in Critically Polluted area (Yes or No. If yes, provide brief details):** No, the project is not located in Critically Polluted Area identified by Central Pollution Control Board.
- (xvii) **ToR details:** Date of ToR Application Submission: 04th Jul 2017, Date of EAC Meeting (Infra-2): 21st Meeting held on 21st to 24th August, 2017, Date of ToR Issue: 11th September, 2017.
- (xviii) **Public Hearing Details and Summary of issues raised and response/commitments by Proponent:** Public notice was issued on daily newspapers on 30th September 2018 namely, 'Western Times' (English Daily) and 'Sandesh'(Gujarati Daily). The public hearing was conducted on 02nd Nov 2018 at Dothiwala Club, Village-Okha, Taluka – Okhamandal, District - Devbhumi Dwarka, Gujarat. About 140 persons from local areas were attended in the public hearing. Summary of issues raised and response/commitments by Proponent are as under:

S. No	Category of Issue raised by Public	Response/Commitment by Proponent	Remarks, if any
1	Safety concern and request for extension of Lighter wharf towards south	Project proponent informed that, considering the safety aspects, technical study will be carried out by GMB for the same. Based on the detailed engineering and ecological sensitivity study a boundary wall on the southern end of the Govid Ghat is proposed to be constructed for the safety of the workers.	Considering safety of workers and work environment it was proposed to build a boundary wall on the southern end of the Lighter Wharf
2	Welcomed the project due to its potential for generation of employment	Project proponent express thanks for welcoming the projects and stated that the current project through development, will generate employment.	Project was welcomed due to its potential for generation of employment

- (xix) **If the project involves expansion copy of certified compliance report issued by concerned regional office:** Okha port was commissioned on 25th October 1925, which is prior to implementation of Environmental Protection Act (EPA) 1986 and Environmental Impact Assessment Notification (EIA) 2006. Hence the port facility does not have prior EC

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as on date. However, the port facility has obtained CC&A (Consolidated Consent Authorization) from GPCB and timely renewal of the same is being done, currently valid upto 20th September 2020. The consolidated CC&A with compliance is submitted.

- (xx) **Whether the project involves diversion of forest land and status of application:** Not applicable, as the proposed project does not involve the diversion of Forest land and will be developed within the existing Okha port facility.
- (xxi) **Whether the project is located within 10 km of Protected Areas (PA) including National Parks, Sanctuaries and Tiger Reserves etc.:** Yes, the proposed project is located within 10 km radius of Gulf of Kutch Marine National park and Marine Sanctuary. No project activities are proposed in the protected areas and the distance from the project boundary to protected area is 1.28 km. There is no impact or disturbance to the protected area due to proposed project is envisaged.
- (xxii) **Whether the project is located within the Eco-Sensitive Zone (ESZ) or Eco-Sensitive Area (ESA) notified by the MoEF&CC:** No, the project is located as a distance of 1.28km from the ESZ area.
- (xxiii) **Waste Management: A detailed waste management plan has been submitted for both construction and operational phase of the proposed project with consideration to the existing Okha port facility.**
- (xxiv) **STP details:** As part of the proposed Environmental Management Plan (EMP) a STP of 100 KLD capacity is recommended to be installed to treat the sewage and waste water generated from the existing and proposed port facilities (75 KLD). The treated waste water will be reused within the port for greenbelt development, sanitation facilities and dust suppression.
- (xxv) **Details of tree cutting and Green belt development:** No trees will be cut for the proposed project, as the entire proposed project activities will be developed within the existing Okha Port facility. A 3-Tier greenbelt is proposed to be developed utilizing only native species and in consultation with the forest department. Greenbelt will be developed in a total of 2.8 ha area with 5600 plantations and the fund for greenbelt development is ₹ 10 lakhs.
- (xxvi) **Energy conservation measures with estimated saving:** As part of energy conservation measures the Okha port facility will be installed with LED bulbs and Solar powered lights (300 nos.), with an estimated savings of 5% from overall energy consumption.
- (xxvii) **Details of Rain Water Harvesting:** Since the proposed project site lies across coastal plain, the possibility of implementing rainwater harvesting system within the port area is difficult due to seawater ingress/salinity intrusion in the region. Hence, detailed technical feasibility study on the hydro-geological pattern of the region shall be undertaken to explore possibility of implementing rainwater harvesting within the port premises or utilization of rain water for allied facilities within the port.
- (xxviii) **Whether the project is in CRZ area: If yes, provide details of components in CRZ area, layout on CRZ map of 1:4000 scale prepared by an authorised agency and appraisal by State Coastal Zone Management Authority (SCZMA) and copy of their recommendations:** CRZ area details of Okha Port including existing and proposed project components based on the study by National Centre for Sustainable Coastal Management (NCSCM), which is an authorized agency for CRZ map preparation, is presented in below table:



S. No	Project Activity	Project Activity Area (Sq. Km)	Project Activity falls within CRZ Classification
1	Existing Approach Channel	0.725397	CRZ -IVA
2	Existing Okha Port Area	0.286058	CRZ III with NDZ, CRZ -IVA
3	Existing Storage area	0.177143	Out of CRZ
4	Proposed Extension of Govind Ghat	0.000616	CRZ-IB, CRZ -IVA
5	Proposed Dredging Area	0.129682	CRZ -IVA
6	Proposed ICG Jetty	0.005694	CRZ -IVA
7	Proposed reclamation of ICG Jetty	0.009112	CRZ-IB
8	Proposed reclamation of Passenger Jetty	0.011114	CRZ-IB

The layout superimposed on CRZ map of 1:4000 scales is submitted. The proposed project was appraised by the Gujarat Coastal Zone Management Authority (GCZMA) in their 47th meeting held on 03.02.2020. GCZMA issued recommendations for the proposed project on 20.05.2020 *vide* a ref. Letter No. ENV-10-2019-152-T cell.

(xxix) **Whether the project involves foreshore facilities. If yes, provide details of shoreline study, dredging details, disposal of dredge material, reclamation, cargo handling with dust control measures and oil Spill Contingent Management Plan.:** The Okha Port is located in stable coast as the shoreline status map prepared by NCSCM and Institute of Ocean Management (IOM), Anna University. The proposed project involves Capital dredging to a tune of 3,41,250 m³ for berthing facility upto -8m CD, the dredge spoil will be utilized for reclamation of proposed backup area of proposed Indian Coast Guard (ICG) jetty, existing passenger jetty and in the Govind Ghat (lighter wharf) extension area. Excesses materials if any from the capital dredging will be disposed-off into the identified offshore location 22°30'33.40"N latitude and 68°54'24.52"E longitude at depth greater than -20m from msl. Maintenance dredging is proposed to a tune of 34,125 m³ will be undertaken as on when required, the frequency of maintenance dredging is very low (every 5 years only based on requirement) and the dredge spoil will be disposed-off in the above mentioned offshore location. Based on the dredge spoil disposal study none of the disposed sediments reach the shore causing no impact to the shoreline. The detailed dredge spoil disposal study is submitted. Dust control measures for cargo handling includes mechanization of port and utilization of closed conveyor system, hopper loading with hatch and automated water sprinkler system including cargo storage yard, Dry Fog Dust Suppression (DFDS) system, truck mounted water sprinkler and fog system, wind barriers in storage yard, covering of dusty cargo with tarpaulin sheets, truck mounted vacuum for road dust removal, wetting of roads with water trucks, proposed paved roads, dedicated wheel washing facility and development of 3-tier greenbelt. In addition to the above mentioned dust control measures a detailed management plan has been prepared during both construction and operation phase of the project and presented in the EIA Report. A detailed oil spill contingency plan for Tier-1 spill has been carried out by CSIR-National Institute of Oceanography (NIO), Goa for Okha Port and the same will be utilized for proposed project also.

(xxx) **Brief description of Socio-economic condition of local people:** Based on Administrative Atlas published by Directorate of Census Operations, there are only about 5 Administrative divisions, which include 3 revenue villages, one Municipality (Okha) and one Census Town (Mithapur) within the 10 km study area. The study area is mostly dominated by the people doing fishing activities followed by trade and business. The Cumulative population in the

study area is 75,897 with 39,166 males and 36,731 females, which is about 3.51 % of the District's population. The children population below 6 years old was found to be 9,856, which were at 12.98 % of the total population. The population density of the study area was about 793 per sq.km, which is exponentially high when compared to the District's Population density of 152 per sq.km. The Sex Ratio was found at 938 females per thousand males, with that of District's ratio of 939. The Vulnerable populations such as Scheduled Caste and Scheduled Tribes population were 14.4 % and 0.4 %, respectively. The major portion of the population dependent on fishing as their main source of economic activity followed by labour works, tourism, transportation, trade and business. According to Census 2011, the major commodities handled in the study area are Raw Bauxite, Soda Ash, Salt, Cement, etc and agriculture products produced are Pearl millet, Sorghum, Groundnut, Vegetables, etc. According to Fisher folk census 2010, there are two fishing villages in the study area i.e. Okha and Arambhada with the total fishermen population 1492. Based on the primary survey about 70 % of the workers employed in the fish catch are migrant workers. The migrant workers are mostly from the neighboring districts of the Gujarat State and from states like Bihar, Uttar Pradesh, Kerala, Andhra Pradesh, Tamil Nadu, etc. Within the study area agriculture is not carried out majorly as most of the study area villages are either coastal village / urban settlement. Based on the data collected from Socio-Economic Caste Census-2011, published by Ministry of Rural Development, it was reported that in Okhamandal, 61.77 % of the households monthly income with highest earning household member was less than Rs.5000 and 21.14 % of households with income range of Rs.5000 to Rs.10000. According to Census 2011, the percentage of working population in the study area was 29.8% and as against the state's level percentage was 40.97 %. 90.39 % of the working populations are main workers employed for more than 6 months in the year. Only about 2.96% of the total working population in the study area was engaged in agricultural activity. The percentage of Household and Other workers group were 1 % and 96.03 %, respectively.

- (xxxix) **Land acquisition and R&R issues involved:** The project does not involve any land acquisition and R&R as the proposed project activities will be developed within the existing port facility.
- (xxxixii) **Employment potential, No. of people to be employed:** A total of 230 people will be employed for the current project, inclusive of temporary and permanent employees. The detailed breakup of employee numbers during both construction and operation phases are given below-

Phase	Employment Type	No. of Persons
Construction	Permanent	30
	Temporary	120
Operation	Permanent	15
	Temporary	65
Total		230

- (xxxixiii) **Benefits of the project:** Development of greenbelt using only native species will enhance the ecological diversity in the area and other CSR/CER programs such as facilitation of drinking water and sanitation facilities will help the local community and reduce the pollution/stress in environment. **Social** - Dedicated berthing facility for Indian Coast Guard Vessels will be of defense and strategic importance, since Okha Port is located near to international boundaries. Reclaimed land near proposed ICG Jetty will be providing backup area for the Coast guards thereby enhances the regional security. Proposed Expansion and



infrastructure in passenger jetty area will lead to social interactions and investments leads to a better social standard of people in the area. **Financial** - Proposed expansion of Okha Port will result in generation of employment both as direct and indirect forms also leading to social upliftment of people in the region. Increased cargo handling will contribute to Nation's Economy. The reclaimed area that will be utilized for beautifications purpose near passenger jetty will cause many social interactions and money inflow due the proposed activities like construction of passenger waiting hall, recreational area etc. The additional amenities proposed will facilitate in easy commute of the tourists visiting the Beyt Dwarka temple, who board from this passenger jetty resulting in improved tourism and livelihood status.

(xxxiv) **Brief summary of specialised Studies carried out for the project as per the ToR:** Brief summary of the project as per TOR are as following-

S. No	ToR Point	Remarks
1	A detailed analysis of the physicochemical and biotic components in the highly turbid water round the project site (as exhibited in the Google Map shown during the presentation), compare it with the physicochemical and biotic components in the adjacent clearer (blue) water both in terms of baseline and impact assessment and draw up a management plan	Water samples were collected from the turbid and clear water areas to analyze and compare their physicochemical and biotic components based on which impact assessment and management plan have been prepared to address the possible impacts of proposed project on the marine environment. Comparison of off-shore water with the near shore water revealed that the TVC (Total Viable Count), number of colony forming units in surface water are higher in near shore locations when compared to off-shore locations; and in bottom waters off-shore locations had higher units compared to near shore. The concentrations of certain heavy metals were found to be comparatively higher in near shore than offshore locations.
2	Study the impact of dredging on the shore line	According to the shoreline change map published by NCSCM and IOM, the study area is in stable coast and the previously executed maintenance dredging (frequency of 5 years done only as and when required) has induced no impact on the shoreline. The quantity of dredging is very less causing no significant change in the hydrodynamics of the region. Based on the sediment disposal modelling study none of the sediments reach the shoreline hence, no impact on the shoreline is envisaged due to dredging.
3	A detailed impact analysis of rock dredging	No blasting is proposed. Migration of species is envisaged due to noise generation form dredging operations. Temporary change in marine water quality is envisaged. Cutter suction dredger will used for dredging operations to minimize the impacts.
4.	Dispersion modelling for the dumping of the dredge materials shall be carried	The dredge spoil from the proposed capital dredging will be entirely utilized for reclamation of backup area for existing passenger jetty, proposed ICG jetty and

	out. The study report shall be incorporated	lighter wharf extension area within the port area based on sediment characteristics and excess materials if any will be disposed in the identified offshore location. Only the entire maintenance dredging (done as and when required) spoil will be disposed of into the sea at 22°30'33.40"N latitude and 68°54'24.52"E longitude with depth greater than 20m from msl. Based on the dredge disposal study, none of the disposed sediments reach the shore envisaging no impact on the shoreline.
5	The Marine biodiversity impact assessment report and management plan through the National Institute of Oceanography (NIO) or any other institute of repute on marine, brackish water and fresh water ecology and biodiversity. The report shall study the impact on project activities on 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 standards survey methods.	Gujarat Institute of Desert Ecology(GUIDE) has conducted an intensive study on biodiversity impact assessment in the study area to assess the possible impacts that may be caused due to the proposed project activities on various biological species like, corals, molluscs, sea grasses and fish communities, etc. The biodiversity impact assessment report and management plan has been prepared and incorporated in the EIA report. Upon implementation of proposed mitigation measures and management plan minimal impact on the environment is envisaged. Species have the tendency to regain to baseline condition upon completion of project activities.
6.	Examine and submit the water bodies including the seasonal ones within the corridor of impacts along with their status, volumetric capacity, quality, likely impacts on them due to the project.	There are no water bodies within or near the project area except Gulf of Kutch but the water bodies within the study area were considered for analysis for their physic-chemical and biological parameters and presented in the baseline study.
7.	Examine road / rail connectivity to the project site and impact on the existing traffic network due to the proposed project / activities. A detailed traffic and transportation study	Okhamandal tehsil has good road and rail connectivity with broad gauge rail system that reaches upto Okha town. State Highway (SH-6A) is the major state road connectivity for the port, and other road network through which the port transports its cargo. A detailed traffic assessment study has been carried out and the study results indicate that the existing road is adequate

	should be made for existing and projected passenger and cargo traffic.	to handle the existing and proposed traffic and no additional roads will be required
8	Submit the details of fishing activity and likely impacts on the fishing activity due to the project. Specific study on effects of construction activity & pile driving on marine life	The study area is one of the major fish landing center in the region, detailed analysis of potential impact on fishing activities due to the proposed project activities have been conducted. The benthic communities in the dredging and disposal area have the tendency to rejuvenate back to the baseline conditions; species will migrate to adjacent undisturbed area during construction activities and will regain their baseline conditions upon completion of project activities.
9	Details of oil spill contingency plan	A detailed oil spill contingency plan for Tier-1 spill has been carried out by CSIR-National Institute of Oceanography (NIO), Goa for Okha Port and the same will be utilized for proposed project also.
10	Details of bathymetry study	Detailed Bathymetry study for the study area has been carried out by GMB
11	Details of ship tranquility study	Will be undertaken during the detailed engineering phase of the project.
12	Examine baseline environment quality along with projected incremental load due to the proposed project / activities.	The baseline environmental quality is assessed for the 10 km radius study area for various environmental parameters such as air, noise, water, soil, land, marine environment, ecology and socio-economic environment. The impacts on the surrounding environment due to the proposed activities have been identified through modelling studies and the results are presented in the EIA Report.

(xxxv) **Details of Court cases:** There is no court case against the proposed project.

4. The EAC during its 241st meeting on 25-26th August, 2020, taken into account the submissions made by the project proponent M/ Gujarat Maritime Board, Gandhinagar, Gujarat that the current proposal only pertains to the Development of Coast Guard Jetty and allied facilities within existing Okha Port, Okha, Devbhumi Dwarka, Gujarat over an extent of 6.0128 Ha area at Okha, Gujarat. After a detailed deliberation, the EAC recommended the proposal for grant of Environmental and CRZ Clearance subject to fulfilment of specific conditions other than all standard conditions applicable for this project.

5. 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 and CRZ Clearance for the Development of Coast Guard Jetty and allied facilities within existing Okha Port, Okha, Devbhumi Dwarka, Gujarat over an extent of 6.0128 Ha land area at **Village - Okha, Tehsil - Okhamandal, District- Devbhumi Dwarka, State –Gujarat** 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.

A. SPECIFIC CONDITIONS

- (i) The Environmental and CRZ Clearance to the project is primarily under provisions of EIA Notification, 2006 and CRZ Notification, 2011. It does not tantamount to

approvals/consent/permissions etc required to be obtained under any other Act/Rule/regulation. The Project Proponent is under obligation to obtain approvals /clearances under any other Acts/ Regulations or Statutes as applicable to the project.

- (ii) The project proponent shall abide by all the commitments and recommendations made in the Form-II, EIA and EMP report, submissions made during Public Hearing and also that have been made during their presentation to EAC.
- (iii) 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.
- (iv) All the recommendations and conditions specified by the Gujarat Coastal Zone Management Authority (GCZMA) vide letter No. ENV-10-2019-152-Tcell dated 20th May, 2020 shall be complied with.
- (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. Creek water monitoring program shall be implemented during the construction phase.
- (vi) Dredging shall not be carried out during the fish breeding season. Dredging, etc. shall be carried out in confined manner to reduce the impacts on marine environment. As committed, Silt curtains shall be used to minimize spreading of silt plume during dredging operation. Turbidity should be monitored during the dredging using online monitoring system. No removal of silt curtain unless baseline values are achieved.
- (vii) Wherever possible, dredged material shall be used for bank nourishment. With the enhanced quantities, the impact of dumping on the estuarine environment should be monitored and necessary measures shall be taken on priority basis if any adverse impact is observed.
- (viii) An independent monitoring must be carried out by any Government Agency/Institute to evaluate the impact during dredging. Impact of dredged material on estuarine environment along with shore line changes should be monitored by the PP and necessary mitigation measures should be taken in case any adverse impact is observed. The details shall be submitted along with the six-monthly monitoring report
- (ix) Marine ecological studies and its mitigation measures for protection of phytoplankton, zooplanktons, macrobenthos, estuaries, sea-grass, algae, sea weeds, Crustaceans, Fishes, coral reefs and mangroves etc. as given in the EIA-EMP Report shall be complied with in letter and spirit.
- (x) A copy of the Marine and riparian biodiversity management plan duly validated by the State Biodiversity Board shall be obtained and implement in letter and spirit.
- (xi) Sewage generated will be treated in STP of 100 KLD capacity. The treated water will be used for flushing, gardening and dust suppression within the port premises.
- (xii) A continuous monitoring programme covering all the seasons on various aspects of the estuarine and inter-tidal areas of Okha environs need to be undertaken by a competent university available in the State or by entrusting to the National Institutes/renowned Universities/accredited Consultant with rich experiences in marine science aspects. The monitoring should cover various physico-chemical parameters along with PHC coupled with biological indices such as microbes, plankton, benthos and fishes on a periodic basis during construction and operation phase of the project. Any deviations in the parameters

shall be given adequate care with suitable measures to conserve the marine environment and its resources. Adequate funds should be allocated for the same.

- (xiii) 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.
- (xiv) The actions shall be in accordance with proposed landscape planning concepts to minimise major landscape changes. The change in land use pattern shall be limited to the proposed port limits and be carried out in such a way as to ensure proper drainage by providing surface drainage systems including storm water network.
- (xv) Suitable preventive measures must be taken to trap spillage of fuel / engine oil and lubricants from the construction site. Measures should be taken to contain, control and recover the accidental spills of fuel during cargo handling.
- (xvi) All the mitigation measures submitted in the EIA report shall be prepared in a matrix format and the compliance for each mitigation plan shall be submitted to the RO, MoEF&CC along with half yearly compliance report.
- (xvii) The company shall draw up and implement Corporate Social Responsibility Plan as per the Company's Act of 2013.
- (xviii) As per the Ministry's Office Memorandum F. No. 22-65/2017-IA.III dated 1st May, 2018, project proponent has proposed that an amount of Rs. 2.12 Crores (computed on slab basis for the project cost of Rs. 107.76 Crores) shall be earmarked under Corporate Environment Responsibility (CER) Plan with special focus on providing healthcare facilities to the government hospitals in light of COVID 19 pandemic. A small portion of the fund can also be used for the activities such as Health, Water supply, Sanitation, Road development, solar lights in nearby areas and Education etc. The activities proposed under CER shall be restricted to the affected area around the project. The entire activities proposed under the CER shall be treated as project and shall be monitored. The monitoring report shall be submitted to the regional office as a part of half yearly compliance report, and to the District Collector. It should be posted on the website of the project proponent.

B. STANDARD CONDITIONS:

I. Statutory compliance:

- (i) The project proponent shall prepare a Site-Specific Conservation Plan & Wildlife Management Plan and approved by the Chief Wildlife Warden. The recommendations of the approved Site-Specific Conservation Plan / Wildlife Management Plan shall be implemented in consultation with the State Forest Department. The implementation report shall be furnished along with the six-monthly compliance report (incase of the presence of schedule-I species in the study area).
- (ii) 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.
- (iii) The project proponent shall obtain the necessary permission from the Central Ground Water Authority, in case of drawl of ground water / from the competent authority concerned in case of drawl of surface water required for the project.



- (iv) All excavation related dewatering shall be as duly authorized by the CGWA. A NOC from the CGWA shall be obtained for all dewatering and ground water abstraction
- (v) 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.
- (vi) 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. PM₁₀ and PM_{2.5} in reference to PM emission, and SO₂ and NO_x in reference to SO₂ and NO_x emissions) within and outside the project area at least at four locations (one within and three outside the plant area at an angle of 120° each), 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) The project proponents will draw up and implement a plan for the management of temperature differences between intake waters and discharge waters.
- (vi) Spillage of fuel / engine oil and lubricants from the construction site are a source of organic pollution which impacts marine life. This shall be prevented by suitable precautions and also by providing necessary mechanisms to trap the spillage.
- (vii) 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.
- (viii) Sewage Treatment Plant shall be provided to treat the wastewater generated from the project. Treated water shall be reused for horticulture, flushing, backwash, HVAC purposes and dust suppression.
- (ix) 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.
- (x) No diversion of the natural course of the river shall be made without prior permission from the Ministry of Water resources.
- (xi) 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 their offices and residential areas.



VI. Waste management:

- (i) Dredged material shall be disposed safely in the designated areas.
- (ii) 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.
- (iii) 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.
- (iv) The solid wastes shall be managed and disposed as per the norms of the Solid Waste Management Rules, 2016.
- (v) 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.
- (vi) 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.
- (vii) 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.
- (viii) 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. The greenbelt shall inter alia cover the entire periphery of the plant.
- (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. Corporate 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.

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- (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_{2.5}, PM₁₀, SO₂, NO_x (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 plant 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.
- (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.

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


(Amardeep Raju)
Scientist-E

Copy to:

1. The Principal Secretary, Department of Forests & Environment and Chairman, GCZMA, Govt. of Gujarat, Sachivalaya, Gandhinagar, Gujarat
2. The Chairman, Central Pollution Control Board, Parivesh Bhawan, CBD-cum-Office Complex, East Arjun Nagar, Delhi – 32
3. The Member Secretary, Gujarat Pollution Control Board, Sector 10-A, Gandhi Nagar – 382043, Gujarat.
4. The APCCF (C), MoEF& CC, RO (WZ), E-5, Kendriya Paryavaran Bhawan, Arera Colony, Link Road No.3, Ravishankar Nagar, Bhopal –16
5. Monitoring Cell, MoEF&CC, Indira Paryavaran Bhavan, New Delhi.
6. Guard File/Record File
7. Notice Board.


(Amardeep Raju)
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