

F.No.11-104/2009-IA-III  
Government of India  
Ministry of Environment, Forest and Climate Change  
(IA.III Section)

Indira Paryavaran Bhawan,  
Jor Bagh Road, New Delhi - 3

Date: 15<sup>th</sup> November, 2019

To,

**M/s Dhamra Port Company Ltd,**  
Fortune Towers, 2<sup>nd</sup> Floor, Chandrashekharpur,  
Bhubaneswar - 751023, Odisha  
E- Mail: [environment.dhamra@adani.com](mailto:environment.dhamra@adani.com)

**Subject: Revised Master Plan Development of Dhamra Port in Bhadrak District, Odisha by M/s Dhamra Port Company Limited - Environmental & CRZ Clearance - reg.**

Sir,

This has reference to your online Proposal No. IA/OR/MIS/107539/2009 dated 24<sup>th</sup> June, 2019, submitted to this Ministry for grant of Environmental and CRZ Clearance in terms of the provisions of the Environment Impact Assessment (EIA) Notification, 2006 and Coastal Regulation Zone (CRZ) Notification, 2011, under the Environment (Protection), Act, 1986.

2. The proposal for 'Revised Master Plan Development of Dhamra Port' in Bhadrak District, Odisha by M/s Dhamra Port Company Limited was considered by the Expert Appraisal Committee (Infra-2) in the Ministry in its 44<sup>th</sup> meeting held during 23-25 September, 2019.
3. The details of the project, as per the documents submitted by the project proponent, and also as informed during the above said EAC meeting, are reported to be as under:-
  - (i) Dhamra Port has been developed by "The Dhamra Port Company Limited" (DPCL) by means of Concession granted by Government of Odisha on BOOST basis. The DPCL now is a wholly owned subsidiary of M/s. Adani Ports and Special Economic Zone Limited. The Dhamra port is located between Latitude 20°48'N to 20°56'N and Longitude 86°55'E to 87°16'E on the East Coast of India in Chandabali Tehsil of Bhadrak District in Odisha State.
  - (ii) DPCL has implemented Phase I facility with two berths and 25 MMTPA capacities to handle Coal, Iron Ore and Lime Stone and has become operational w.e.f. May, 2011. Dhamra Port is one of the deepest ports of India with a draught of 18.0 m and can accommodate super cape-size vessels up to 180,000 DWT.
  - (iii) Further to the Phase I development; DPCL has obtained EC&CRZ clearance for Phase II expansion for handling additional 71.3 MMTPA dry bulk cargo, liquid and gas cargo including LNG, POL (LPG), other Break bulk (clean cargo) and 1 million TEUs of containerized cargo. Presently, DPCL is under process of implementing Immediate Development Plan inline to Phase II EC&CRZ clearance obtained through vide letter F.No.11-104/2009-IA.III dated 01.01.2014 and further amendment vide letter dated 25.03.2015. Out of this approved capacity, 12.0 MMTPA of LNG component has been transferred in favour of M/s Dhamra LNG Terminal Private Limited vide letter F.No.11-104/2009-IA.III dated 29.07.2019.
  - (iv) In Revised master plan development (05 years), the Total quay length will be 6032 m to handle Multi-Purpose and Liquid/Gas/Cryogenic cargoes. Marine structures of the port will be developed with the flexibility to handle various cargoes. Type of berth and type of cargo is a commercial and business requirement. So master plan is revised with those flexibilities to accommodate berths as multi-purpose. Total cargo handling

capacity will be approximately 169.5 MMTPA along with increased backup facilities. For easy evacuation of cargo, a new rail, road and utilities corridor (12 km x 125 m wide) is proposed from Northern side development of Dhamra Port. As a part of Revised Master Plan, it is to further develop additional 2 lane road and 1 rail track in the existing corridor. In Revised master plan development for 30 years, the Total quay length will be increased to 11750 m (cumulative) to handle Multi-Purpose and Liquid/Gas/Cryogenic cargoes. Total cargo handling capacity will be approximately 314 MMTPA (Cumulative) by the end of 30 years.

- (v) The cargo mix includes **(i) Multipurpose (Including Liquid Cargo)** (Coal / Iron ore / limestone / Mines & Minerals & other dry bulk/Fertilizers and raw materials for manufacture of fertilizer / food grains / sugar / clinker / cement / Project cargo / timber & wood / machines/ Iron steel products / Break Bulk etc./Container (3.1 m TEUs for 5 year and 4.66 m TEUs for 30 years), All Class A, B, C petroleum products, excluded petroleum products Including Petrochemical products, Hazardous, Toxic and Non Hazardous chemicals and other Liquid cargoes. PoLSuch as Motor Spirit, Naphtha, High Speed Diesel, Crude Oil, Aviation Fuel, Kerosene, Low Sulphur Heavy Stock/ Furnace oil, Carbon Black Feedstock (CBFS), Paraffin, Bitumen, Lube oil, Asphalt etc.) and **(ii) Gas / Cryogenics/Liquid** (LNG, Propane, Butane, LPG, CNG, NG and All Class A, B, C petroleum products, excluded petroleum products Including Petrochemical products, Hazardous, Toxic and Non Hazardous chemicals and other Liquid cargoes).
- (vi) The Outer Navigational Channel dimensions will be 21.0 km long (total) with 19.0 m depth and 380 m (one way) width for 5 year. Outer Channel dimensions for 30 year will be 21.0 km long (total- 2 way) at (-) 19.0 m CD dredged depth with a width of 500 m (two way) and further it will be extended to 24.0 km long (total) at (-) 22.0 m CD dredged depth. The Inner Channel dimensions will be 380 m width with 19.0 m Depth for 5 Year and 500 m width with 22.0 m Depth for 30 Year.
- (vii) Revision of master plan development will be carried in total area of 2013.4 ha. This includes Phase I - 234 ha, Phase II - 456 ha including basin area, proposed reclamation of Sea/Submerged intertidal area 1075.7 ha, and proposed applied vacant government land 247.7 ha.
- (viii) Revised Master Plan consists of Bulk Material Handling Area/ Container Terminal Backup Area/ Multipurpose Cargo Backup Area/ Liquid Tank Farm/ Go down Area/ LNG/LPG/Cryogenic Terminal/ Miscellaneous (Open Storage + recreational facilities + etc.) and Gate Complex & Parking, Greenbelt, Internal Rail and Road Approaches and Corridors, Excluded Scattered Mangrove Area, Desalination plant + ETP + STP + WTP, Buildings + Workshops etc.
- (ix) The Greenbelt development is planned in an area of about 129 Ha during 5 Year and 258.9 Ha during 30 Year.
- (x) Present land uses of the expansion site are Dry Barren Mud, Dry Mud with Giria Grass, Thorny scrub, Sea/Submerged land which falls in inter tidal zone without any macro vegetation. The Revised Master Plan Layout is outside the Eco Sensitive Zone of Bhitarkanika Sanctuary & National Park which was declared as per Gazette Notification dated 16.06.2015.
- (xi) The Dredging Quantity for 5 Year development Plan will be 110 MCM and for Revised Master Plan (30 year) will be 140 MCM (Cumulative)for (-) 19.0 m CD two way channel and 185 MCM for (-) 22.0 m CD (Cumulative). The total reclamation will be carried out with in a period of 5 year keeping the vision of 30 years plan. About 110 MCM dredged material will be utilized for reclamation and remaining dredged material will be disposed-off at the disposal ground beyond (-) 20 m depth offshore at MoEF&CC approved location and the same was selected after carrying out hydro dynamic modeling study. The maintenance dredging quantity is estimated at ~ 16 - 20 MCM/year.

*J. K. Singh*

- (xii) Estimated water requirement for the construction phase is 1.95 MLD and same shall be met through the bowsers and existing water supply system. The water requirement during operation phase will be 21.4 MLD for 5 year and 40 MLD for 30 Year. The maximum water withdrawal for the desalination plant for 5 Years and 30 Years will be 63 MLD and 100 MLD respectively. Up-gradation of Existing Intake on Matai River with Proposed Desalination Plant near existing WTP within the Port premises and Outfall to sea shore near Jetty. Process water for LNG and LPG will be taken from sea and discharged back in to the sea. Seawater intake quantity of 1,20,000 m<sup>3</sup>/h and discharge of the same through a pipeline with a diffuser system at outfall location proposed in the harbour basin. The discharge location/outfall point is be finalized after dispersion modelling studies.
- (xiii) Wastewater Treatment facilities such as STP of 1 MLD (5 Year) and 2 MLD (30 Year) (Cumulative) as well as ETP of 3 MLD (5 Year) and 5 MLD (30 Year) (Cumulative) will be developed.
- (xiv) The quantity of municipal solid waste generated from canteen and administrative areas is estimated at about 7.92 TPD for 5 Years development and 14.4 TPD for 30 Year development, of which 60% will be bio-degradable and 40% non-biodegradable. Organic Waste Converter will be provided to treat the bio-degradable wastes. Composted bio-degradable waste will be used as manure in greenbelt/ gardens and Other recyclable wastes will be sold to OSPCB authorized vendors.
- (xv) The hazardous waste such as used oil/spent oil, wastes/residue containing oil/Oil soaked rags/cotton waste, discarded containers/barrels & used battery and sludge from ETP will be handled as per Hazardous Waste Management Rules (as amended). The hazardous wastes generated at the Dhamra Port will be disposed at nearby Treatment, Storage and Disposal Facility (TSDF) or Common Hazardous Waste Incineration facility (CHWIF) and also sent to the approved vendors of Odisha State Pollution Control Board (OSPCB) and CPCB. The nearest TSDF is located at village Kanchichuan, PO Mangalpur, district Jajpur, at a distance ~150km by road.
- (xvi) Operation Phase power requirement will be 391000 kwh/day for 5 year development and 816000 kwh/day for 30 year development. Odisha Power Transmission Corporation Limited (OPTCL) will provide additional power supply from the Bhadrak substation to the existing substation in the port premises to meet the power demand for the port expansion. Renewable energy sources like wind and solar are explored and it is estimated based on initial assessment that about 40 MW from wind energy and 3 ME from solar energy can be harnessed.
- (xvii) Necessary air pollution abatement measures such cargo transportation mostly through rail and Pipelines (~ 70%), Covered Conveyor and Transfer Points, Dust Suppression System, Use of specialized ship loaders/unloaders, Covered wagon tippler and track Hopper, rapid loading system through silos, Wind screens, covered Trucks/ railway wagons, Use of Eco friendly regasification technology etc., are considered.
- (xviii) Dhamra port has already constructed a rail link of 62.5 Km with single line track, connecting the port with the Indian Railway network near Bhadrak railway station. The port has acquired 125 m wide land corridor from Dhamra to Bhadrak for providing exclusive connectivity with the hinterland. Approval has already been obtained for 4 lane road and 2 rail tracks (as a part of Phase I & II Clearance). As a part of Revised Master Plan, it is to develop further additional 2 lane road and 1 rail tracks in the existing corridor. In addition, for easy evacuation of cargo, a new rail, road and utilities corridor (12 km x 125 m wide) is proposed from Northern side development of Dhamra Port. This corridor will connect Dhamra port with existing rail-road corridor near Bansada, Bhadrak.
- (xix) Revised master plan facilities such as construction of berths, creating navigational facilities and back up areas including outfall point of proposed Desalination Plant, pipelines for withdrawal and discharge of seawater for LNG and LPG process and

*J. Bose*

fire-fighting purpose will also attracts "The CRZ Notification, 2011" in addition to EIA Notification 2006 (as amended).

- (xx) ToR was granted to the project vide letter F.No.11-104/2009-IA.III (Pt.) dated 18.02.2016 and extended its validity till 18.02.2020 vide letter dated 05.12.2018.
- (xxi) Public hearing was held on 11.04.2018 at village Kanak Prasad (near DRDO helipad), under Tahsil Chandbali in the district of Bhadrak.
- (xxii) Odisha Coastal Zone Management Authority has recommended the proposed project vide Letter No. 163/OCZMA dated 10.05.2019.
- (xxiii) The Project Cost for 5 year Revised Master Plan development is Rs. 17,158 Crores.
- (xxiv) Employment Opportunity: During operation phase, direct and indirect employment generation expected is approximately 2200 and 11000 for 5 year development and 4000 and 20,000 for 30 year development respectively.
- (xxv) Benefits of the project: Infrastructure development due to project expansion in the region would facilitate creation of additional/improved communication, health, education, sanitation, hygiene and economic prosperity. The surrounding population would get maximum benefits from upcoming of new industries and its allied ancillary units in shape of direct and indirect employment, self-employment and start up skill development opportunities etc. Improved socio-economic conditions which focused primarily on work force requirements, acquisition of supplies, and increase in business activity. Quality of life in the region is likely to improve due to increase in per capita/per family earning and value appreciation of local resources that would provide economic freedom and facilitate a higher standard of living. As a part of the Corporate Social Responsibility (CSR), DPCL is strongly committed towards fulfilling its social obligations and has taken up many activities for improving the way of living of people the locality in field of Education, Health care, Rural infrastructure development and Sustainable livelihood development. The proposed project shall further act as a catalyst to industrialization and urbanization of the region. Stimulate alternate employment and business opportunities.

4. The project/activity is covered under category 'A' of item 7 (e) i.e. 'Ports, harbours, break waters, dredging' of the schedule to the EIA Notification, 2006 and its subsequent amendments, and requires appraisal at Central level by sectoral EAC.

5. During deliberation, the project proponent informed that following activities will be included in the Revised Master Plan Development of Dhamra Port.

<b>Cargo Handling capacity</b>	169.5 MMTPA (5 Years); 314 MMTPA (30 Years- Cumulative) (12 MMTPA LNG transferred to DLTPL)
<b>Quay Length</b>	6032m (5 Years); 11750m (30 Years - Cumulative)
<b>Turning Circle</b>	3 Nos.; 550 to 700m diameter
<b>Approach Channel</b>	380 m wide & 21.0 km long (5 Years); 500 m wide & 24.0 km long (30 Years)
<b>Capital Dredging &amp; Reclamation</b>	(-19.0 m CD) 110 MCM (5 Years) (-22.0 m CD) additional 75 MCM (30 Years)
<b>Maintenance Dredging</b>	~16 - 20 MCM/year
<b>Intake and Outfall System</b>	For LNG/LPG Regasification Terminal (including FSRU & FSO proposed as an interim solution) and Desalination Plant
<b>Dedicated Corridors</b>	Additional 2 lane road & 1 rail track as a part of RMP – within existing corridor of 125m wide & 62.5km long from Dhamra Port

*S. Bose*

	New Corridor of 125m wide x 12km long from proposed Northern boundary of Dhamra Port
<b>Project Cost</b>	Rs. 17,518 crore (5 Years); Rs. 31,415 Crore (30 Years-additional)
<b>Desalination plant</b>	21.4 MLD (5 year) and 40 MLD (30 Years - Cumulative)
<b>Marine Outfall</b>	For discharge of cold water from LNG regasification and reject brine from desalination plant

The types of Cargo handled will be as follows:

S. No.	Cargo Type	Cargo Mix
1.	Multipurpose (including Liquid)	Coal / Iron ore / limestone / Mines & Minerals & other dry bulk/Fertilizers and raw materials for manufacture of fertilizer / food grains / sugar / clinker / cement / Project cargo / timber & wood / machines/ Iron steel products / Break Bulk etc./Container (3.1 m TEUs for 5 year and 4.66 m TEUs for 30 years)  All Class A, B, C petroleum products, excluded petroleum products Including Petrochemical products, Hazardous, Toxic and Non Hazardous chemicals and other Liquid cargos), PoL Such as Motor Spirit, Naphtha, High Speed Diesel, Crude Oil, Aviation Fuel, Kerosene, Low Sulphur Heavy Stock/ Furnace oil, Carbon Black Feedstock (CBFS), Paraffin, Bitumen, Lube oil, Asphalt etc.
2.	Gas / Cryogenics/ Liquid	LNG, Propane, Butane, LPG, CNG, NG and All Class A, B, C petroleum products, excluded petroleum products Including Petrochemical products, Hazardous, Toxic and Non Hazardous chemicals and other Liquid cargos

It was also informed that Revised Master Plan layout is outside ESZ of Bhitarkanika Sanctuary and Bhitarkanika National Park and Gahirmatha Marine Sanctuary. In support to the claim, the map authenticated by concerned Wildlife Warden has also been submitted.

6. The EAC deliberated upon the issues raised during the Public Hearing/Public Consultation meeting conducted by the Odisha State Pollution Control Board on 11.04.2018. The issues were raised regarding Greenbelt Development, Fishing Activity and safe movement of fishing trawlers, Forest Land, Queries related to EIA and Public Hearing, Coal Dust/Fugitive Emission Management including impact on air environment, Employment, Land Acquisition and Displacement/Land Loser/R&R, Fish drying yard CSR activities, Storm Water Drainage Network, Ecological Sensitivity of the Area/Eco Sensitive Zone, Impact on Turtle Nesting, Mangrove Conservation, Construction of Roads and Railway lines/ Road, Connectivity & Traffic Management and Community utility area development. The Committee noted that issues raised during public hearing have been satisfactorily responded by the project proponent and incorporated in the final EIA-EMP report.

The EAC also deliberated on the certified compliance report letter No. 101-740/EPE dated 27.06.2018 issued by the MoEF&CC's Regional Office (Eastern Zone), Bhubaneswar. As per Compliance report, "Project Authority have complied or are in process of complying with the conditions stipulated by the Ministry. Action plan has also been sought on some points. Further, the Regional Office vide its letter No. 101-740/EPE/463 dated 06.03.2019 have informed that project proponent have submitted action taken report vide letter No. DPCL/ENV/MOEFCC/2019 dated 04.02.2019. The details of action taken by the project proponent were also presented before the EAC.

*S. Rose*

7. The EAC in its 44<sup>th</sup> meeting held during 23-25 September, 2019, based on the information submitted and clarifications provided by the Project Proponent and detailed discussions held on all the issues, recommended the project for grant of environmental and CRZ clearance with stipulated specific conditions along with other Standard EC Conditions as specified by the Ministry vide OM dated 4<sup>th</sup> January, 2019 for the said project/activity, while considering for accord of environmental clearance. As per recommendations of the EAC, the Ministry of Environment, Forest and Climate Change hereby accords Environmental and CRZ Clearance to the project 'Revised Master Plan Development of Dhamra Port' in Bhadrak District, Odisha by M/s Dhamra Port Company Limited, under the provisions of the EIA Notification, 2006 and amendments/circulars issued thereon and CRZ Notification, 2011, and subject to the specific and general conditions as under:-

**A. Specific Conditions:**

- (i) Construction activity shall be carried out strictly according to the provisions of the CRZ Notification, 2011. No construction work 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 Odisha State Coastal Zone Management Authority vide letter No. 163/OCZMA dated 10.05.2019 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) Dredging shall not be carried out during the fish breeding season.
- (vii) Dredging, etc shall be carried out in the confined manner to reduce the impacts on marine environment including turbidity and turbidly should be monitored (preferably monthly) near Kanika island during the dredging.
- (viii) No underwater blasting is permitted.
- (ix) Dredged material shall be disposed safely in the designated areas and also to be utilized for beach nourishment. With the enhanced quantities, the impact of dumping on the coastal environment should be studied and necessary measures shall be taken on priority basis if any adverse impact is observed.
- (x) 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 report.
- (xi) 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.
- (xii) The fresh water requirement of 40 MLD will be met by Desalination plant of 40 MLD which will be developed on modular basis.
- (xiii) The domestic and industrial wastewater will be treated in STP and ETP and treated water will be reused / recycled for horticulture and other purposes.
- (xiv) Marine ecological studies and its mitigation measures for protection of phytoplankton, zooplanktons, benthic macrofauna, etc prepared by Centre of Envotech and Management Consultancy Private Limited (CEMC) as given in the EIA-EMP Report shall be complied with in letter and spirit.
- (xv) 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.

*J. Bose*

- (xvi) A periodic monitoring programme covering all the seasons on various aspects of the coastal environs need to be undertaken by NABL accredited laboratories during construction and operation phase of the project. The monitoring should cover various physico-chemical parameters coupled with biological indices such as microbes, plankton, benthos and fishes. Deviations in the parameters shall be addressed with suitable measures to conserve the marine environment and its resources.
- (xvii) Continuous online monitoring of air and water quality covering the project area shall be carried out and the compliance report shall be submitted to the regional office of MoEF&CC.
- (xviii) Effective and efficient pollution control measures like covered conveyors/stacks (coal, iron ore and other bulk cargo) with fogging/back filters and water sprinkling commencing from ship unloading to stacking to evacuation shall be undertaken. Coal and iron ore stack yards shall be bounded by thick two tier green belt with proper drains and wind barriers wherever necessary. Coal should be handled properly at port limits so that the coal dust will not reach the surrounding areas. Sprinklers shall be used at coal storage regularly and to monitor the coal dust in the air.
- (xix) Sediment concentration should be monitored fortnightly at source and disposal location of dredging while dredging. Online monitoring system should be installed for assessing turbidity during dredging.
- (xx) Marine ecology shall be monitored regularly in terms of water quality (Salinity, temperature, DO, BOD, PHc, nutrients), sediment quality (Metals, PHc, Organic carbon etc) and biological characteristics (phytoplankton, zooplankton, benthic macrofauna and other marine biodiversity components) as part of the environment management plan specified in the report. Any deviations from the baseline should be reported to the OCZMA/OSPCB.
- (xxi) 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.
- (xxii) 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.
- (xxiii) Compliance to Energy Conservation Building (ECBC-2017) shall be ensured for all the building complexes. Solar/wind or other renewable energy shall be installed to meet energy demand of 1% equivalent.
- (xxiv) All the recommendations mentioned in the rapid risk assessment report, disaster management plan and safety guidelines shall be implemented.
- (xxv) Measures should be taken to contain, control and recover the accidental spills of fuel and cargo. Tier 1 should be made available with the port for attending the large oil spills. The company should inform the coast guard for availing tier 2 facility.
- (xxvi) Necessary arrangement for general safety and occupational health of people should be done in letter and spirit.
- (xxvii) 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.
- (xxviii) The effluent generated by desalination plant and FSRU should be released at designated sites as suggested in the EIA report.

J. Bose

- (xxix) The company shall draw up and implement corporate social Responsibility plan as per the Company's Act of 2013.
- (xxx) As per the Ministry's Office Memorandum F.No. 22-65/2017-IA.III dated 1<sup>st</sup> May 2018, project proponent has proposed an amount of Rs. 21.4998 Crores (0.125% of the project cost) under Corporate Environment Responsibility (CER) Plan for the activities such as Biodiversity Conservation, Turtle and Marine life Research Centre, Water Conservation and Water Recharge, Fishermen Alternate Livelihood Development, Agriculture and Horticulture Promotion, Community Infrastructure and Women Empowerment – Promote Entrepreneurship. 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. PM<sub>10</sub> and PM<sub>2.5</sub> in reference to PM emission, and SO<sub>2</sub> and NOx in reference to SO<sub>2</sub> and NOx 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

*J. Rose*



- 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.

J. Bose

- 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 report.
- 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.

*J. Rose*

- 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.

*S. Bose*

## **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.
- 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.

*S. Rose*

- 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.
8. This issues with the approval of the Competent Authority.

  
(Dr. Subrata Bose)  
Scientist F

**Copy to:**

- 1) The Secretary, Department of Forest and Environment, Government of Odisha, Bhubaneswar - 23, Odisha.
- 2) The Addl. Principal Chief Conservator of Forests (Central), Ministry of Environment, Forests and Climate Change, Regional Office (EZ), A/3, Chandrasekharpur, Bhubaneswar - 751023.
- 3) The Member Secretary, Odisha Coastal Zone Management Authority, 1<sup>st</sup> Floor, Administrative Building, Regional Plant Resource Centre Campus, Nayapalli, Bhubaneswar - 751015, Odisha, India
- 4) The Chairman, Central Pollution Control Board Parivesh Bhavan, CBD-cum-Office Complex, East Arjun Nagar, New Delhi - 110 032.
- 5) The Member Secretary, Odisha Pollution Control Board, Paribesh Bhawan, A/118, Nilakantha Nagar, Unit- VIII, Bhubaneswar- 12, Odisha.
- 6) Monitoring Cell, MoEF&CC, Indira Paryavaran Bhavan, New Delhi.
- 7) Guard File/ Record File/ Notice Board.
- 8) MoEFCC website.

  
(Dr. Subrata Bose)  
Scientist F