

## Krishna Kumar

---

**From:** Microsoft Outlook  
**To:** monitoring-ec@nic.in; roez.bsr-mef@nic.in; zokolkatta.cpcb@nic.in  
**Sent:** Saturday, 30 May, 2020 1:45 PM  
**Subject:** Relayed: Dhamra Port Company Limited, Bhadrak, Odisha - HY EC Compliance Report (Oct'19-Mar'20)

**Delivery to these recipients or groups is complete, but no delivery notification was sent by the destination server:**

[monitoring-ec@nic.in](mailto:monitoring-ec@nic.in) (monitoring-ec@nic.in)

[roez.bsr-mef@nic.in](mailto:roez.bsr-mef@nic.in) (roez.bsr-mef@nic.in)

[zokolkatta.cpcb@nic.in](mailto:zokolkatta.cpcb@nic.in) (zokolkatta.cpcb@nic.in)

Subject: Dhamra Port Company Limited, Bhadrak, Odisha - HY EC Compliance Report (Oct'19-Mar'20)



Dhamra Port  
Company Limit...



Ports and  
Logistics

DPCL/ENV/MOEFCC/2020-50

23.05.2020

To

**The Additional Principal Chief Conservator of Forests (C),**  
Ministry of Environment, Forest and Climate Change,  
Eastern Regional Office (EZ),  
A/3, Chandrasekharapur,  
Bhubaneswar- 751023  
E-mail: [roez.bsr-mef@nic.in](mailto:roez.bsr-mef@nic.in)

**Sub :** Half yearly Compliance report of Environment & CRZ clearance for expansion of Dhamra Port at Dhamra, Bhadrak District of Odisha by M/s Dhamra Port Company Limited for the period Oct-19 - Mar-20.

**Ref:** 1) Environmental Clearance for Expansion of Dhamra Port Project vide letter dated 4<sup>th</sup> January 2000 bearing PD/26017/8/98-PDZ (CRZ)  
2) CRZ recommendation Letter for Phase-II Expansion vide letter dated 20th December, 2012 bearing no. OCZMA-1/2012-13/No.17.  
3) Amendment in Environmental & CRZ clearance vide letter dated 25th March 2015 bearing F.No.11-104/2009-IA.III  
4) Environment & CRZ clearance for expansion at Dhamra Port dated 29th July 2019 bearing F.No.11-104/2009-IA.III.  
5) Environment & CRZ clearance for Revised Master Plan Development at Dhamra Port dated 15th November 2019 bearing F.No.11-104/2009-IA.III.

Dear Sir,

With reference to the above mentioned letters for the said subject matter, please find enclosed herewith the compliance to the conditions stipulated in the letters for the period Oct-19- Mar-20 in soft copy for your kind reference. The Said Period compliance is also being E-mailed on [roez.bsr-mef@nic.in](mailto:roez.bsr-mef@nic.in)

Thanking You,  
Yours Sincerely

**Krishna Kumar**  
Head-Environment

**Encl: As above**

The Dhamra Port Company Limited  
(A Wholly Owned Subsidiary of APSEZL)  
At: Dosinga, Po: Dhamra  
Bhadrak 756 171  
Odisha, India  
CIN: U45205OR1998PLC005448

Tel + 91 674 2304500  
+ 91 6786 270100  
Fax + 91 674 2303828  
[info@adani.com](mailto:info@adani.com)  
[www.adaniports.com](http://www.adaniports.com)

**Registered Office:** HIG-20, BDA Colony, Jayadev Vihar, Bhubaneswar 751 013, Odisha, India



Ports and  
Logistics

**Copy to:**

- 1) The Director (Monitoring –IA-III Division), Ministry of Environment, Forest & Climate Change, Indira Paryavaran Bhawan, Jor Bagh Road, New Delhi – 110003
- 2) Zonal Office, Central Pollution Control Board, Southern Conclave, Block 502, 5th & 6th Floors, 1582 Rajdanga Main Road, Kolkata - 700 107 (W. B.)
- 3) The Member Secretary, State Pollution Control Board, Odisha, Parivesh Bhawan, A/118, Unit 8, Nilakantha Nagar, Nayapalli, Bhubneswar-751012
- 4) The Regional Officer, State Pollution Control Board, Odisha, Plot no. 1602, Ganeshwarpur, Januganj, Balasore – 756019
- 5) Member Secretary OCZMA & Director , Env-cum-Spl. Secretary to Govt., Forest & Environment Dept., Govt. of Odisha, Plot No 108, Surya Nagar, Unit-VII, Bhubaneswar - 751003.

The Dhamra Port Company Limited  
(A Wholly Owned Subsidiary of APSEZL)  
At: Dosinga, Po: Dhamra  
Bhadrak 756 171  
Odisha, India  
CIN: U45205OR1998PLC005448

Tel + 91 674 2304500  
+ 91 6786 270100  
Fax + 91 674 2303828  
info@adani.com  
www.adaniports.com

**Registered Office:** HIG-20, BDA Colony, Jayadev Vihar, Bhubaneswar 751 013, Odisha, India

**Phase – I: Half yearly Compliance report of the conditions stipulated in Environmental Clearance for Expansion of Dhamra Port Project vide letter dated 4th January 2000 bearing No. PD/26017/8/98-PDZ (CRZ)**

Sr. No.	Conditions	Compliance Status
i	<p>All Construction design/drawings relating to construction activities must have the approval of the concerned Government Departments/ Agencies of the State Government of Odisha.</p> <p>Ground water should not be tapped for construction activities as the drawl of ground water for industrial use from the CRZ area is a prohibited activity.</p>	<p>Complied.</p> <p>Site is undergoing expansion inline to Revised Master Plan development of Dhamra Port. Permission for construction (CTE) had already been obtained from SPCB Odisha.</p> <p>No ground water being used for construction activities. Surface water from Mantei river is being used for construction work.</p>
ii	<p>Adequate provision for all infrastructural facilities such as water supply, fuel, sanitation etc. must be extended for laborers during the construction period in order to avoid damage to the environment.</p>	<p>Complied.</p>
iii	<p>Dredging operations if any should be undertaken in consultation with the Central Water and Power Research Station, Pune or National Institute of Oceanography, Goa or any other authorized agency to ensure that dredging operations do not cause adverse impact on water quality and marine productivity in the vicinity. Dredging operation as far as possible should be kept to the minimum for avoiding any adverse impact on marine life.</p>	<p>Complied.</p> <p>Capital dredging of Phase-I expansion has been completed. Approx. 3.4 CuM maintenance dredging has been carried out during Oct'19 – Mar'2020. Marine water quality and productivity is being monitored by MoEF&amp;CC accredited laboratory and there are no adverse impact on water quality and marine productivity in the vicinity. The details of Marine Water quality monitoring reports for the period Oct 2019 – Mar 2020 are enclosed as <b>Annexure I</b>.</p>
iv	<p>Disposal sites for excavated material should be so designed that the revised land use after dumping and changes in the land use pattern do not interfere with the natural drainage.</p>	<p>Complied.</p> <p>Land reclamation for Phase-I has been completed and there is no interference with the natural drainage.</p>
v	<p>To meet with any emergency situation, adequate foam containers should be kept ready with supporting firefighting system and water pipeline.</p>	<p>Complied.</p> <p>DPCL has a fire fighting team consisting of 40 crews including 1 officer, Sub-officer 1, supervisor-1, Safety Coordinator-1, Leading Fireman-07. Fire Tender Operator-07, Fireman-22 equipped with two fire tenders having water storage capacity of 4500 L and foam storage capacity of 500 L for each, and CO2-type (329 nos.) DCP type-248 &amp; Foam (25 nos.) type of extinguishers. Detail list of fire extinguishers is attached as <b>Annexure-II</b>.</p>
vi	<p>Staff posted in sensitive areas should be trained in implementation of the Crisis Management Plan already drawn by the authorities. Mock Drill(s) for this purpose should be on a regular basis. Provisions of Dock Safety Act and the Guidelines issued by</p>	<p>Complied.</p> <p>No operations are being carried out in sensitive areas. However, the employees of DPCL have been trained on safety guidelines. Regular Mock Drills are conducted as per the Crisis Management Plan. The details of drills conducted towards dock safety for the period</p>



**Phase – I: Half yearly Compliance report of the conditions stipulated in Environmental Clearance for Expansion of Dhamra Port Project vide letter dated 4th January 2000 bearing No. PD/26017/8/98-PDZ (CRZ)**

Sr. No.	Conditions	Compliance Status
	the DG, FASLI/CLI, and Mumbai for the safety and health of the workers should be followed.	Oct 2019 – Mar 2020 is enclosed as <b>Annexure III</b> .
vii	For development of Green Buffer including mangroves wherever feasible, the authorities should start growing large nursery of multipurpose species such as Eucalyptus, Casuarina, Dalbergia, Terminalia etc. The norm of about 2000-2500 trees per Hectare may be adopted for raising of green belt. Necessary permission may be obtained for cutting of trees, if any, for the project	<p>Complied.</p> <p>A large nursery of multi species has been established for greenbelt development. The nursery constructed in an area of 1.5 acres with modern poly house &amp; green house for effective plant production. More than 1 lakhs saplings were developed from the nursery during last year having local plant species, forest species, seasonal plants, ornamental shrubs, Indoor plants, medicinal plants, etc. Forest species and local species like Casuarina, Terminalia, Bahunia, Pongamia, Tecoma, Peltophorum, Delonix, Neem, etc are produced.</p> <p>A new medicinal plant propagation unit was developed with production capacity of 100 plants per/month. Medicinal plants like tulsi, rose marry, lemon grass, brahmi, stevia etc are produced.</p> <p>Total 14098 nos. of plantation has been carried out during Oct 2020 – Mar 2020. The Total cost spent for plantation for the period Oct-19-mar-2020 is 98.30 lakhs.</p> <p>DPCL has obtained Environment &amp; CRZ clearance for Revised Master Plan expansion. Site is undergoing expansion inline to Revised master Plan development. Greenbelt is being developed inline to this. Port layout is enclosed as <b>Annexure IV</b>.</p> <p>Plantation has been done along the both edges of the 62.5 km rail corridor, in adjacent villages and inside the port premises. Photographs are enclosed as <b>Annexure V</b>.</p>
viii	To prevent discharge of sewage and other liquid wastes including ballast into marine environment, adequate system for collection, treatment and disposal of liquid wastes must be provided to the satisfaction of the Odisha Pollution Control Board, Bhubaneswar.	<p>Complied.</p> <p>DPCL has two nos. of Sewage Treatment Plant (STP) to handle 140 KLD &amp; 15 KLD of sewage generated at port site &amp; township. The treated water is being used for horticulture. The monitoring reports for the period Oct 2019 – Mar 2020 are enclosed as <b>Annexure I</b>. All results are well within the prescribed standards MARPOL and Ballast Water Convention guidelines are enforced by DPCL for visiting ships.</p>
ix	Adequate noise control measures must be provided to noise levels at various work places	Complied.

**Phase – I: Half yearly Compliance report of the conditions stipulated in Environmental Clearance for Expansion of Dhamra Port Project vide letter dated 4th January 2000 bearing No. PD/26017/8/98-PDZ (CRZ)**

Sr. No.	Conditions	Compliance Status
	<p>within the standard prescribed by the competent authorities. If need be, ear plugs and ear muffs should be provided to the workers in the project area</p>	<p>Suitable personal protective equipment's (PPEs) (Ear muffs &amp; ear plugs) are kept mandatory for workers in noise prone areas. Noise monitoring (once in a month) at site is being carried out by NABL and MoEF&amp;CC accredited agency and levels have been found below the standards. The reports for the period Oct 2019 – Mar 2020 are enclosed as <b>Annexure I</b>.</p>
x	<p>The quality of treated effluents, solid wastes and emissions must confirm to the standards laid down by the competent authority including State Pollution Control Board, Govt. of Odisha, Bhubaneswar</p>	<p>Complied.                      DPCL has two nos. of Sewage Treatment Plant (STP) to handle 140 KLD &amp; 15 KLD of sewage generated at port site &amp; township. All the treated waste water from STP is being used for horticulture purpose. Monitoring is being carried out by NABL &amp; MoEF&amp;CC recognized laboratory. Monitoring reports for the period Oct 2019 – Mar 2020 are enclosed as <b>Annexure I</b>. All results are well within the prescribed standards.                      We have color coded waste bins for segregating different category of solid waste. Waste generated is being handled in line to 5R concept of waste management, as per the vision of APSEZ to become "A Zero Waste Company". Ambient Air Quality Monitoring (twice in a week) is also being carried out by NABL &amp; MoEF&amp;CC accredited agency, Reports for the period Oct 2019 – Mar 2020 is enclosed as <b>Annexure I</b>. All emissions are well with the prescribed standards.</p>
xi	<p>An Environmental Cell should be set up immediately and made operational with adequate laboratory facilities, equipments and a mobile van for collecting air samples. The record and data should be submitted with proper analysis and corrective measures required, if any, for maintaining the levels within the prescribed limits to the Eastern Regional Office, Ministry of Environment &amp; Forests, Govt of India, Bhubaneswar. The Environment Cell should coordinate and monitor environmental mitigative measures executed in the project area. The Project Proponent is advised to institutionalize their Environmental Monitoring through some recognized Scientific Institution for the project.</p>	<p>Complied.                      DPCL has a well-structured Environmental Management Cell, staffed with qualified man power at site supported by team at Head Office in Ahmedabad.                      Environment monitoring is being carried out by NABL &amp; MoEF&amp;CC accredited agency, the monitoring results for the period Oct 2019 – Mar 2020 (enclosed in <b>Annexures I</b>) are well within the permissible limits.                      Monitoring data is being submitted along with half yearly compliance reports to the MoEF&amp;CC Eastern Regional Office, MoEF&amp;CC New Delhi, CPCB-Kolkata and Odisha Pollution Control Board. Our Last Half Yearly compliance report was submitted vide letter dated 25<sup>th</sup> November 2019.</p>

**Phase – I: Half yearly Compliance report of the conditions stipulated in Environmental Clearance for Expansion of Dhamra Port Project vide letter dated 4th January 2000 bearing No. PD/26017/8/98-PDZ (CRZ)**

Sr. No.	Conditions	Compliance Status
xii	Necessary leakage detection devices with early warning system must be provided at strategic locations.	Not applicable at present. As presently no gaseous cargo is being handled by the port.
xiii	Standby DG sets must be provided to ensure uninterrupted power supply (to) the pump house and the firefighting system	Complied. 5 nos of standby DG Sets of capacity ranging from 160 KVA to 200 KVA have been provided for emergency backups & uninterrupted power supply to the water supply system and firefighting system. DG set Monitoring (Half yearly basis) is being carried out by NABL & MoEF&CC recognized laboratory. Monitoring reports for the period Oct 2019 – Mar 2020 are enclosed as <b>Annexure I</b> . All results are well within the prescribed standards.
xiv	Third party inspection should be ensured during the construction and operational phases with adequate insurance cover. The Project authorities should confirm on regular intervals of six months to the Ministry about the implementation of the suggested safeguard measures and the data/report should be opened for inspection by the Team which would be constituted by the Ministry, If found necessary	Complied. Internal and external IMS audit (Integrated Management System) is being carried out by internal auditor (half yearly) / external agency (annually) as per ISO 14001:2015 (Environment Management System). Six monthly compliance reports are regularly submitted to the Eastern Regional Office of MoEF&CC, Bhubaneswar, MoEF&CC New Delhi, CPCB Kolkata, Odisha State Pollution Control Board and Odisha Coastal Zone Management Authority. The last report was submitted vide our letter dated 25 <sup>th</sup> November 2019. Officials from MoEF&CC Regional Office and SPCB Odisha are regularly inspecting the project site. Safeguard measures as advised by inspection team are taken into consideration for implementation.
xv	Full support should be extended to the Eastern Regional Office, Ministry of Environment & Forests, Govt. of India, Bhubaneswar during inspection of the project for monitoring purposes by the project proponents by furnishing full details and action plans including action taken report on mitigative measures.	Complied. Full support has been extended to the Eastern Regional Office of Ministry of Environment, Forests & Climate Change, Bhubaneswar during their visit. Details required by the Regional Office were submitted as and when required. Last inspection was carried out on 12.02.2018. Compliance status of the observed point were submitted vide our letter dated 25.07.2018 & 04.02.2019.
xvi	Adequate funding provisions, year-wise and item-wise, must be made for implementation of the above mentioned safeguard measures.	Complied. Separate budget for the Environment protection is earmarked every year. No separate bank account is maintained for the



**Phase – I: Half yearly Compliance report of the conditions stipulated in Environmental Clearance for Expansion of Dhamra Port Project vide letter dated 4th January 2000 bearing No. PD/26017/8/98-PDZ (CRZ)**

Sr. No.	Conditions	Compliance Status
		same however all the expenses are recorded in advanced accounting system of the organization. Budget for Environment Management of Port premises for the period Oct 2019 – Mar 2020 was Rs. 6.49 crore. Detailed breakup of expenditure is enclosed as <b>Annexure-VI</b> .
xvii	The Rapid Environmental Impact Assessment Studies for the construction of the above project by M/s Kirloskar Consultants Ltd. should be expedited. The project proponent was advised to keep in mind the proneness of the coast of Odisha to severe cyclonic storms while going ahead with their project.	Complied. The Rapid Environmental Impact Assessment Study was conducted in time & submitted. DPCL has already formulated detailed Disaster Preparedness & Management Plan to handle any natural calamities such as cyclones, storms, quakes etc., along the Coast.
1	In case of any deviation or alteration in the project including the implementation agency, a fresh reference should be made to the Ministry for modification in the clearance condition or Imposition of new ones for ensuring environmental protection. The project authorities would be responsible for implementing the above suggested safeguard measures.	Complied. New set of conditions have been issued by the Ministry for Phase-II and Revised Master Plan, which are being complied, as applicable.
2	The Ministry reserves the right to revoke clearance, if the conditions stipulated as above are not implemented to the satisfaction of the Ministry	Point noted
3	These stipulations would be enforced among others under the provisions of Water (Prevention and control of pollution) Act, 1974, the Air (Prevention and control of pollution) Act, 1981, the Environment (Protection) Act, 1986 and the Public Liability (Insurance) Act, 1991 along with their amendments and rules from time to time.	Point noted

**Phase – II: Compliance report of the condition stipulated in CRZ recommendation for Phase II expansion vide letter dated 20th December, 2012 bearing no. OCZMA-1/2012-13/No. 17**

Sr. No.	Conditions	Compliance Status
1	The Ballast Water Management has to be scrupulously followed to ensure that no harmful exotic organisms or pathogens are transferred to the coastal/marine water. In this regard, the DPCL should approach the Ministry of Shipping, Govt. of India to evolve a	Complied. DPCL ensure that the ships visiting at port are in compliance to guidelines issued by Ministry of Shipping Notification No 13/2001.

**Phase – II: Compliance report of the condition stipulated in CRZ recommendation for Phase II expansion vide letter dated 20th December, 2012 bearing no. OCZMA-1/2012-13/No. 17**

Sr. No.	Conditions	Compliance Status
	suitable ballast water management plan to maintain the health of the coastal/marine ecosystems	
2	The marine water and sediment (biogeochemical parameters including phytoplankton community structure) should be monitored regularly by a reputed scientific institute/university	Complied. Monitoring of marine water and sediment (biogeochemical parameters including phytoplankton community structure) is being carried out by NABL & MoEF&CC accredited agency. Results of the same for the period Oct 2019 – Mar 2020 are enclosed as <b>Annexure I</b> .
3	One of the objectives of the CRZ guidelines is to ensure the livelihood of the fishermen community vis-à-vis developmental activities. Hence the DPCL should approach the Director, Indian National Centre for Ocean Information Services (INCOIS), Govt. of India, Hyderabad, to get PFZ advisories / installation of Electronic Display Board (EDB) to disseminate the prospective fishing ground information to the fishing community for their livelihoods. The DPCL is also to indicate any change that has occurred in the fishing zone due to operation of the Port.	Complied. INCOIS display board has been installed at fishing harbor, Dhamra. The same is in working condition. (Please refer <b>Annexure VII</b> for Photograph of INCOIS displayed). DPCL provides support for repair services as and when required.
4	The use of unclaimed/salvaged coal for local people may be explored.	Complied. DPCL has examined this issue. So far there has not been any unclaimed coal and the quantity of salvaged coal is negligible. The procedure required under relevant rules is to auction such unclaimed coal with custom's permission to meet unpaid duties and port charges; and to account salvaged coal back to the stock of original importer. Any other method would contravene customs and other laws.
5	DPCL shall ensure that the dust/fine grained particles of the jetty must be cleaned regularly and methodically so that there is no spillage to the coastal waters to avoid turbidity of the water column.	Complied. The dust/fine grained particles present on jetty are cleaned on daily basis both mechanically and manually so as to avoid spillage into the marine/coastal waters.

**Phase – II: Compliance report of the condition stipulated in CRZ recommendation for Phase II expansion vide letter dated 20th December, 2012 bearing no. OCZMA-1/2012-13/No. 17**

Sr. No.	Conditions	Compliance Status
6	The mangrove vegetation around the port should be conserved both during construction and operation phase.	Complied. DPCL has taken great efforts by creating bamboo fencing around the present scattered mangroves towards southern boundary as well as carried out plantation of mangrove saplings in the blank patches since 2016 within the fenced area, as part of conservation efforts. Continuous awareness is being created among the port employees and workers regarding importance of mangrove and its conservation needs. However, due to cyclonic storms and biotic interference of local population there have been some damages on southern side scattered mangrove patch.
7	Coastal erosion and accretion shall be monitored on a regular basis. The impact of dredging and dumping of the sediment on Dhamra Shoreline change and on the ecologically sensitive areas including the Kanika Sand Islands has to be assessed at regular interval by a recognized institute.	Complied. NIOT Chennai, has carried out shoreline change study alongside Dhamra and Kanika sand shore and also impact of dredging and dumping of sediment on Dhamra Shoreline Change and on ecologically sensitive areas. The studies conclude that there are no significant impacts observed on the shoreline and nearby ecologically sensitive areas because of the ongoing activity. The report has been submitted in previous EC compliance Report vide letter no. DPCL/ENV/MOEFCC/2018-155 dated 20 <sup>th</sup> November 2018.
8	Provision shall be made for treatment/recycle of toxic contents, such as used oil, fertilizers (if any) and similar other toxic materials	Complied. DPCL has made an agreement with OSPCB approved vendor for collection of used oil. Details of the same are submitted to OSPCB as a part of Hazardous waste annual return (Form 4) on regular basis.
9	Environmental Impact Assessment (EIA) study of dredging material should be done on a regular basis with special emphasis to turbidity.	Complied. Offshore water quality monitoring is being done on regular basis (including turbidity parameter) and the results for the period Oct 2019–Mar 2020 can be referred at <b>Annexure-I</b> .
10	The DPCL should ensure that the suspended sediments generated during excavation and	Complied.



**Phase – II: Compliance report of the condition stipulated in CRZ recommendation for Phase II expansion vide letter dated 20th December, 2012 bearing no. OCZMA-1/2012-13/No. 17**

Sr. No.	Conditions	Compliance Status
	during disposal of the dredged materials do not adversely affect the health of the coastal ecosystems within the port area including eco-sensitive areas along the coast.	3.4 Million CuM maintenance dredging was carried out during this period. Marine water quality monitoring is carried out regularly & submitted to OSPCB & MOEFCC <b>Annexure - I</b> . There is no adverse impact on coastal ecosystem.
11	A conservation plan for Kanika Island will be prepared and implemented by the Forest Department, the cost of which will be met by the DPCL.	<p>Kanika Island Conservation Plan has been approved by Forest Department as per DFO Bhadrak letter no. 1889/3F-192/2018 dated 28.05.2018 and 3148/1F-256/2018 dated 31.08.2018. Copy enclosed as <b>Annexure-VIII</b>.</p> <p>DPCL has already released an amount of Rs 140 Lakhs to DFO Bhadrak Wildlife Division in phased wise manner payment of 1<sup>st</sup> installment contribution amount was 40 lakhs on 24.09.2018 , 2<sup>nd</sup> installment contribution amount was Rs 50 lakhs on 23.12.2019 &amp; 3<sup>rd</sup> installment contribution was Rs 50 lakhs on 05.03.2020 for implementation of Kanika Island Conservation plan. The acknowledgement of receipt of fund from DFO, Bhadrak, Wildlife division is enclosed as <b>Annexure-IX</b>. Balance amount will be released as per the progress of work.</p>
12	Mangrove plantation around the port will be protected by the DPCL under the supervision of the Forest Department.	<p>Complied.</p> <p>DPCL has taken great efforts by creating bamboo fencing around the present scattered mangroves present in the southern side of the Port. Mangrove plantation was also carried out in the available open area as part of conservation efforts.</p> <p>Continuous awareness is being created among the port employees and workers regarding importance of mangrove and its conservation needs.</p>
13	Shoreline Changes in and around Kanika Island shall be monitored on monthly basis	<p>Complied.</p> <p>NIOT Chennai, has carried out shoreline change study at Dhamra and Kanika sand shore. The report already has been submitted in previous EC compliance Report vide letter</p>

**Phase – II: Compliance report of the condition stipulated in CRZ recommendation for Phase II expansion vide letter dated 20th December, 2012 bearing no. OCZMA-1/2012-13/No. 17**

Sr. No.	Conditions	Compliance Status
		no. DPCL/ENV/MOEFCC/2018-155 dated 20 <sup>th</sup> November 2018.

**Phase – II: Compliance report of the condition stipulated in Environmental and CRZ Clearance for expansion at Dhamra Port dated 29<sup>th</sup> July, 2019 bearing F. No. 11-104/2009-IA.III**

Sr. No.	Conditions	Compliance Status
<b>5. Specific Condition</b>		
i	Consent to Establishment shall be obtained from Odisha Pollution Control Board under Air and Water Act and a copy shall be submitted to the Ministry before start of any construction work at site	Complied. Consent to Establish has been obtained from OSPCB. The copy of Consent to establish is attached as <b>Annexure-X</b>
ii	Prior clearance from National Board of Wildlife shall be obtained	The project boundary falls outside the notified Eco sensitive zone of Bhitakranika and Gahirmatha Sanctuary, declared as per Gazette Notification 16.06.2015. The approved map from Forest department, Govt. of Odisha is has already been submitted vide our earlier compliance letter dated 25.11.2019
iii	The proponent shall submit undertaking that there shall be no acquisition of grazing/grave land for the project.	Complied. Undertaking has already been submitted vide our earlier compliance letter dated 20.11.2015.
iv	The Regional Office of MoEF may conduct a site visit every year to verify compliance.	Point noted.
v	The Natural creek and drainage pattern of the area should not be disturbed and the cross drainage passing through cargo stack yards shall be released into settling ponds as committed.	Complied. Drainage pattern is being maintained. Creeks are periodically cleaned to ensure no blockage for free flowing of water from both outside and inside. Runoff from the cargo stack yard is diverted to settling pond. Supernatant water after primary treatment is being used for dust suppression.
vi	No housing component is permitted in CRZ area i.e. within 500m from HTL.	Complied. No housing constructed in CRZ area.
vii	The dredging materials shall be at depths 25m or more up to fill up of 30cm or less. Initial and final sounding records for depth of the disposal sites and GPS records shall be maintained for vessels carrying out disposal. The disposal shall	Complied. Dredging material is either used for reclamation or disposed at approved location in the sea. Marine water quality monitoring is

3

**Phase – II: Compliance report of the condition stipulated in Environmental and CRZ Clearance for expansion at Dhamra Port dated 29<sup>th</sup> July, 2019 bearing F. No. 11-104/2009-IA.III**

Sr. No.	Conditions	Compliance Status
	be carried out in the ebb tides and shall be ensured that water quality (SS less than 500mg/l) is maintained during disposal near the vessel.	being carried out regularly & submitted to OSPCB. Copy enclosed as <b>Annexure I.</b>
viii	Commitment for all the recommendations provided by OCZMA and NIO for protection of Kanika island and earmark specific amount for the conservation plan. The plan can be prepared in consultation with the OCZMA and forest department.	Kanika Island Conservation Plan has been approved by Forest Department as per DFO Bhadrak letter no. 1889/3F-192/2018 dated 28.05.2018 and 3148/1F-256/2018 dated 31.08.2018. Copy enclosed as <b>Annexure-VIII.</b> DPCL has already released an amount of Rs 140 Lakhs to DFO Bhadrak Wildlife Division in phased wise manner payment of 1 <sup>st</sup> installment contribution amount was 40 lakhs on 24.09.2018 , 2 <sup>nd</sup> installment contribution amount was 50 lakhs on 23.12.2019 & 3 <sup>rd</sup> installment contribution was 50 lakhs on 05.03.2020 for implementation of Kanika Island Conservation plan. The acknowledgement of receipt of fund from DFO, Bhadrak, Wild life division is enclosed as <b>Annexure-IX.</b> Balance amount will be released as per the progress of work.
ix	The village forest adjacent to the project site should be developed with tree plantation, in consultation with the revenue department/forest department	Permission has been granted by the Collector, Bhadrak and Divisional Forest Officer, Bhadrak Wildlife Division to carry out plantation in the village forest patch adjacent to the port. Plantation had been carried out in forest patch of Ravindra Nagar, Amarnagar and Kanakprasad by planting 16,000 saplings. The copy letter from DFO is enclosed as <b>Annexure- XI.</b>
x	As discussed during the meeting the dumping area should be at the latitude 20° 55' 5" and longitude 87° 10' 5" in the offshore region	Complied.
xi	All the commitments made during the Public Hearing shall be complied with.	Commitments made during Public hearing are being complied. Copy is enclosed as <b>Annexure XII.</b>

**Phase – II: Compliance report of the condition stipulated in Environmental and CRZ Clearance for expansion at Dhamra Port dated 29<sup>th</sup> July, 2019 bearing F. No. 11-104/2009-IA.III**

Sr. No.	Conditions	Compliance Status
xii	Regular air quality monitoring should be conducted at the site and all the parameters should be within limits.	<p>Complied.</p> <p>Air quality monitoring is done by a MoEF&amp;CC accredited agency and all parameters are well within standards</p> <p>Results of the monitoring carried out during the period Oct 2019 – Mar 2020 are enclosed as <b>Annexure –I.</b></p>
xiii	All the recommendation of the EIA/EMP & Risk Assessment and Disaster Management Report shall be complied with letter and spirit. 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 MoEF along with half yearly compliance report to MoEF-RO.	<p>Complied.</p> <p>Compliance of mitigation plan is enclosed as <b>Annexure XIII.</b></p>
xiv	All the recommendations and conditions stipulated by Odisha Coastal Zone Management Authority (OCZMA) No. OCZMA-1/2012-13 dated 20.12.2012 shall be complied with.	<p>Complied.</p> <p>Compliance report of the OCZMA recommendation is enclosed.</p>
xv	The green belt shall be provided all around the periphery and storage yards.	<p>Complied.</p> <p>Site is undergoing expansion inline to Revised Master Plan (RMP clearance). Greenbelt is being developed inline to this.</p> <p>A large nursery of multi species has been established for greenbelt development. The nursery constructed in an area of 1.5 acres with modern poly house &amp; green house for effective plant production. More than 1 lakhs saplings were developed from the nursery during last year having local plant species, forest species, seasonal plants, ornamental shrubs, Indoor plants, medicinal plants, etc. Forest species and local species like Casuriana, Terminalia, Bahunia, Pongamia, Tecoma, Peltophoroum, Delonix, Neem, etc are produced.</p> <p>A new medicinal plant propagation unit was developed with production capacity of 100 plants per/month. Medicinal plants like tulsi,</p>

**Phase – II: Compliance report of the condition stipulated in Environmental and CRZ Clearance for expansion at Dhamra Port dated 29<sup>th</sup> July, 2019 bearing F. No. 11-104/2009-IA.III**

Sr. No.	Conditions	Compliance Status
		<p>rose marry, lemon grass, brahmi, stevia etc are produced.</p> <p>Total 14098 nos. of plantation has been carried out during Oct 2020 – Mar 2020. The Total cost spent for plantation for the period Oct-19-mar-2020 is 98.30 lakhs. Layout enclosed as <b>Annexure IV</b>.</p> <p>Plantation has been done along the both edges of the 62.5 km rail corridor. Please refer <b>Annexure V</b> for photographs of the same.</p>
xvi	There shall be no ground water drawl within CRZ area	<p>Complied.</p> <p>No ground water withdrawal in the CRZ area is done</p>
xvii	Sewage shall be treated and the Treatment Facility shall be provided in accordance with the Coastal Regulation Zone Notification, 2011. The disposal of treated water shall confirm the regulation of State Pollution Control Board.	<p>Complied.</p> <p>DPCL has two nos. of Sewage Treatment Plant (STP) of capacity 140 KLD &amp; 15 KLD to treat sewage generated at port site &amp; township. Treated water of STP is regularly monitored and all the results are found to be well within the prescribed standard. The monitoring report for the period Oct 2019 – Mar 2020 is enclosed as <b>Annexure-I</b>.</p>
xviii	Solid Waste Management shall be as per Municipal Solid (Management and Handling) Rules, 2000	<p>Complied.</p> <p>DPCL has developed a vision for making itself – “A Zero Waste Port” by adoption of 5R principle of waste management i.e Reduce, Reuse, Reprocess, Recycle &amp; Recover.</p> <p>During the period Oct-19 to Mar-2020 a total quantity of 88.312 MT of solid waste has been handled inline to 5 R principle.</p> <p>We have colour coded bins for segregating different category of solid waste. Biodegradable wastes are used for compost preparation. Recyclable wastes are handed over to authorized recyclers.</p>
xix	The project shall be executed in such a manner that there shall not be any disturbance to the fishing activity.	<p>Complied.</p> <p>Approach channel of the port is from South to North east, whereas Fishing boats travels from South to East. Fishing is carried out in deep Sea.</p>

**Phase – II: Compliance report of the condition stipulated in Environmental and CRZ Clearance for expansion at Dhamra Port dated 29<sup>th</sup> July, 2019 bearing F. No. 11-104/2009-IA.III**

Sr. No.	Conditions	Compliance Status
		Hence, no impact on fishing is envisaged because of this project.
xx	It shall be ensured that there is no displacement of people, houses or fishing activity as a result of the project.	Complied. The port development is in intertidal area and henceforth there is no need for displacement of people and the houses. Suitable approaches are available for fishermen to conduct their activities and hence, there won't be any impact on fishing activities.
xxi	No construction work other than those permitted in Coastal Regulation Zone Notification shall be carried out in Coastal Regulation Zone area.	Complied. Construction work is being carried out inline to CRZ notification 2019, amended till date and Environment / CRZ clearances obtained for the project.
xxii	The project proponent shall set up separate environmental management cell for effective implementation of the stipulated environmental safeguards under the supervision of a senior executive	Complied. DPCL has a well-structured Environmental Management Cell, staffed with qualified personnel at site supported by team at Head Office in Ahmedabad.
xxiii	The funds earmarked for environment management plan shall be included in the budget and this shall not be diverted for any other purposes.	Complied. Separate budget for the Environment Protection is earmarked every year. All the expenses are recorded in advanced accounting system of the organization. Budget for Environment Management measures for the Period Oct 2019 – Mar 2020 is in the tune of Rs. 6.49 crore. Detailed breakup of expenditure is enclosed as <b>Annexure-VI</b> .
<b>General Conditions</b>		
i	Appropriate measures must be taken while undertaking digging activities to avoid any likely degradation of water quality.	Complied
ii	Full support shall be extended to the officers of this Ministry/Regional Office at Bhubaneswar by the project proponent during inspection of the project for monitoring purposes by furnishing full details and action plan including action taken reports in respect of mitigation	Complied. Full support has been extended to the Eastern Regional Office of Ministry of Environment, Forests & Climate Change, Bhubaneswar during their visit. Details required by the Regional Office were submitted as and when required. Last inspection was carried out on



**Phase – II: Compliance report of the condition stipulated in Environmental and CRZ Clearance for expansion at Dhamra Port dated 29<sup>th</sup> July, 2019 bearing F. No. 11-104/2009-IA.III**

Sr. No.	Conditions	Compliance Status
	measures and other environmental protection activities.	12.02.2018. Compliance status of the observed point were submitted vide our letter dated 25.07.2018 & 04.02.2019.
iii	A six-monthly monitoring report shall need to be submitted by the project proponents to the Regional Office of this Ministry at Bhubaneswar regarding the implementation of the stipulated conditions.	Complied. Six monthly compliance report is regularly submitted to Regional Office of MoEF&CC, Bhubaneswar. Last compliance report for Apr 2019 – Sep 2019 period was submitted vide our letter dated 25.11.2019.
iv	Ministry of Environment & Forests or any other competent authority may stipulate any additional conditions or modify the existing ones, if necessary in the interest of environment and the same shall be complied with.	Point noted
v	The Ministry reserves the right to revoke this clearance if any of the conditions stipulated are not complied with the satisfaction of the Ministry.	Point noted
vi	In the event of a change in project profile or change in the implementation agency, a fresh reference shall be made to the Ministry of Environment and Forests.	Complied. The project profile has been revised and accordingly DPCL has obtained the Environment Clearance from the Ministry of Environment Forest & Climate Change for Revised Master Plan (RMP) development of Dhamra Port dated 15 November, 2019.
vii	The project proponents 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 and the date of start of land development work.	DPCL had informed the Regional Office MOEF& CC regarding the financial closure and the date of start of land development work. Date of last financial closure was on 30th September, 2014. The same has been submitted vide our earlier compliance submitted to RO-MOEF&CC, Bhubaneswar.
viii	A copy of the clearance letter shall be marked to concern Panchayat/local NGO, if any, from whom any suggestion/ representation has been made received while processing the proposal.	Complied. Copy of clearance letter was submitted to concerned panchayat office vide our letter dated 23.01.2014 for any suggestion. The received copy already has been submitted vide our earlier compliance letter dated 25.11.2019.

**Phase – II: Compliance report of the condition stipulated in Environmental and CRZ Clearance for expansion at Dhamra Port dated 29<sup>th</sup> July, 2019 bearing F. No. 11-104/2009-IA.III**

Sr. No.	Conditions	Compliance Status
ix	Odisha State Pollution Control Board shall display a copy of the clearance letter at the Regional Office, District Industries Center and Collector's Office/Tehsildar's office for 30 days.	-
<b>Conditions stipulated in the amendment dated 25th March, 2015</b>		
i	The port shall ensure that the ships under operation follow the MARPOL Convention with regard to discharge or spillage of any toxic, hazardous or polluting material like ballast water, oily water or sludge, sewage, garbage etc.	Complied. MARPOL and Ballast Water Convention guidelines are enforced by DPCL for visiting ships.
ii	Dust screens shall be provided with height of two meter above the stack height. Water sprinkling shall be carried out for settling dust. Three layers of green belt of tall growing tress shall be provided on all sides of the stack area.	Complied. Site is undergoing expansion inline to Revised Master Plan. Stack yard expansions are planned accordingly. Detailed engineering design for dust screen will be prepared inline to Site condition and further be implemented. Water sprinkling is being done on regular basis to ensure dust suppression in cargo storage area and Mechanized sweeping machine has been engaged on vehicular paths/roads for cleaning of road on daily basis. Greenbelt is also being developed inline to Revised Master Plan.
iii	Transportation of iron ore shall be by covered conduit/closed trucks/rails only. Closed conveyor belt shall be used for unloading the product.	Complied. Transportation of Coal/Iron ore is done in covered rails. Closed conveyor belt are used for unloading and shifting of products.
iv	Water sprinklers will be provided in the area of ore storage and vehicular path/roads.	Complied. Water sprinkling is being done on regular basis to ensure dust suppression in storage area and vehicular paths/roads.
v	All the recommendations of EMP and Disaster Management Plan (DMP) shall be complied with	Complied. Compliance of EMP is enclosed as <b>Annexure XIII</b> .
6	These stipulations would be enforced among others under the provisions of Water (Prevention and Control of Pollution) Act 1974, the Air (Prevention and Control of Pollution) Act 1981, the Environment (Protection) Act,	Point noted

**Phase – II: Compliance report of the condition stipulated in Environmental and CRZ Clearance for expansion at Dhamra Port dated 29<sup>th</sup> July, 2019 bearing F. No. 11-104/2009-IA.III**

Sr. No.	Conditions	Compliance Status
	1986, the Public Liability (Insurance) Act 1991 and EIA Notification 1994, including the amendments and rules made thereafter.	
7	All other statutory clearances such as the approvals for storage of diesel from Chief Controller of Explosives, Fire Department, Civil Aviation Department, Forest Conservation Act, 1980 and Wildlife (Protection) Act, 1972 etc. shall be obtained, as applicable by project proponents from the respective competent authorities.	Complied. License on storage of explosives from PESO and NOC from Fire Dept. is enclosed as <b>Annexure-XIV</b> .
8	The project proponent shall advertise in at least two local Newspapers widely circulated in the region, one of which shall be in the vernacular language informing that the project has been accorded Environmental and CRZ Clearance and copies of clearance letters are available with the Odisha State Pollution Control Board and may also be seen on the website of the Ministry of Environment and Forests at <a href="http://www.envfor.nic.in">http://www.envfor.nic.in</a> . The advertisement should be made within 10 days from the date of receipt of the Clearance letter and a copy of the same should be forwarded to the Regional Office of this Ministry at Bhubaneswar.	Complied. Advertisement copies are already submitted vide our earlier compliance letter dated 25.11.2019.
9	This clearance is subject to final order of the Hon'ble Supreme Court of India in the matter of Goa Foundation Vs. Union of India in Writ Petition (Civil) No. 460 of 2004 as may be applicable to this project.	Point noted
10	Any appeal against this clearance 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.	Point noted
11	Status of compliance to the various stipulated environmental conditions and environmental safeguards will be uploaded by the project proponent in its website	Complied. Compliance report for each period is uploaded on the company's website ( <a href="http://www.adaniports.com/ports-">http://www.adaniports.com/ports-</a>

**Phase – II: Compliance report of the condition stipulated in Environmental and CRZ Clearance for expansion at Dhamra Port dated 29<sup>th</sup> July, 2019 bearing F. No. 11-104/2009-IA.III**

Sr. No.	Conditions	Compliance Status
		downloads) and the same is being updated twice in a year.
12	A copy of the clearance letter shall be sent by the proponent to concerned Panchayat, Zilla Parishad/Municipal Corporation, Urban Local Body and the Local NGO, if any, from whom suggestions/representations, if any, were received while processing the proposal. The clearance letter shall also be put on the website of the company by the proponent.	Complied. The acknowledgment copy already has been submitted vide our earlier compliance letter dated 25.11.2019.
13	The proponent shall upload the status of compliance of the stipulated clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of MoEF, the representative Zonal Office of CPCB and the SPCB.	Complied. Compliance report for each period is uploaded on the company's website ( <a href="http://www.adaniports.com/ports-downloads">http://www.adaniports.com/ports-downloads</a> ) and the same is being updated twice in a year. Results of environmental monitoring are enclosed as <b>Annexures-I</b> to the compliance report. Soft copy of the same are submitted to all concerned authorities.
14	The project proponent shall also submit six monthly reports on the status of compliance of the stipulated clearance conditions including results of monitored data (both in hard copies as well as by e-mail) to the respective Regional Office of MoEF, the respective Zonal Office of CPCB and the SPCB.	Complied. Compliance report for each period is uploaded on the company's website and the same is being updated twice in a year. Results of environmental monitoring are enclosed as <b>Annexures-I</b> to the compliance report. Soft copy (Email) of the same are submitted to all concerned authorities.
15	The environmental statement for each financial year ending 31st March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of clearance conditions and shall also be sent to the respective Regional Office of MoEF by email.	Complied. Environmental Statement for FY 2018-19 was submitted to OSPCB with a copy to the Regional Office of MoEF & CC vide our letter no DPCL/ENV/OSPCB/2019-105 dated 26 <sup>th</sup> Sep 2019. Copy of the same is enclosed as <b>Annexure – XV</b> . All submitted Environment Statements as well as Half Yearly Compliance reports are available on our company website and can be viewed publicly.
16	This Environment & CRZ clearance is valid till 31 <sup>st</sup> December 2021.	Point Noted

**Phase – II: Compliance report of the condition stipulated in Environmental and CRZ Clearance for expansion at Dhamra Port dated 29<sup>th</sup> July, 2019 bearing F. No. 11-104/2009-IA.III**

Sr. No.	Conditions	Compliance Status
17	This issues with the approval of the competent authority.	Point Noted

**Revised Master Plan - Half yearly Compliance report of the conditions stipulated in Environmental Clearance for Revised Master Plan Development of Dhamra Port project vide letter dated 15<sup>th</sup> November, 2019 Ref. No. F.No.11-104/2009-1A-III**

**A. Specific Conditions**

SL No	Conditions	Compliance Status
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.	Construction activities are being carried out inline to CRZ notification 2019, as amended till date.
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.	Noted & will be complied
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	Complied. Consent to Establish obtained from State Pollution Control Board, Odisha vide letter no. 1874 IND-II-CTE-6289 dated: 17.02.2020. The copy is enclosed as <b>Annexure- XVI</b>  Consent to operate for Phase-I & Phase-II has been renewed from State Pollution Control Board vide letter no.4218-IND-I-CON-6348 dated 24.04.2020 till 31.03.2025. The copy is enclosed as <b>Annexure-XVII</b>
IV	The project proponent shall comply with the air pollution mitigation measures as submitted	Noted. Regular ambient air quality and DG set stack monitoring are being carried out as per the frequency and prescribed guideline.  Road sweeping by mechanized and manual means are being carried out on regular basis. Regular water sprinkling by tankers are also carried out. Rain guns are fixed all around the stack yard for suppression of dust during stacking, reclaiming and during high wind period. Mobile dust buster is also used in stack yard and other area for controlling the fugitive

		emission. Periodic awareness and training programs are also organized by Environment department for workers and employees.
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.	Noted and will be complied. As a part of existing operation Drainage pattern is being maintained. Creeks are periodically cleaned to ensure no blockage for free flowing of water from both outside and inside. Runoff from the cargo stack yard is diverted to settling pond. Supernatant water after primary treatment is being used for dust suppression. Further inline to Revised Master Plan proper drainage pattern will be maintained as per the RMP drainage plan.
VI	Dredging shall not be carried out during the fish breeding season.	Noted & will be complied
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.	Complied. Dredging is being carried out in the areas identified and approved as a part of Revised Master plan.  As a part of existing operation, Periodic marine water quality monitoring including turbidity is already carried out near Kanika island by MOEFCC approved laboratory. The details of Marine Water quality monitoring reports for the period Oct 2019 – Mar 2020 are enclosed as <b>Annexure I</b> .
VIII	No underwater blasting is permitted.	Not Applicable
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.	Noted and will be complied.  Maintenance dredging has been carried for existing operational Port during the period of Oct-19 – Mar-20. As stipulated in EIA report and discussed in the EAC, dredged materials will be utilized for reclamation and balance if any will be disposed of beyond (-) 20 m depth offshore at MoEF&CC approved location. The The marine water quality monitoring is being carried out by NABL & MOEFCC accredited laboratory on periodical basis. The results concludes that there is no significant impact observed on marine water quality.
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	Noted. Shoreline monitoring study was carried out as a part of Environment Impact Assessment study for Revised Master plan and further, the same will be carried out at regular intervals to check the impact and if required mitigation measures will be carried out.
XI	While carrying out dredging, an independent monitoring shall be carried out by Government Agency/Institute to check the impact and	Noted and will be complied.



	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	Noted. At present, no desalination plant has been developed as per approved capacity.
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	Noted. As a part of existing operation, two STP of capacity 140 KLD and 15 KLD are used for treatment of sewage from Port and township area. Augmentation of 15 KLD in existing STP and 150 KLD new STP are also in progress. Periodic testing of water quality is being done by MOEFCC approved laboratory and the results are being submitted to SPCB/MOEFCC. All results are well within the prescribed standards. The treated water is being used for horticulture purpose. The Monitoring reports is enclosed as <b>Annexure-I</b>
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.	Noted and will be complied. As part of existing operations, Periodic monitoring program covering all seasons on various aspects of the coastal environs is being carried out by NABL & MoEFCC accredited laboratory. The monitoring results for the period Oct-19 – Mar-2020 is enclosed as <b>Annexure-I</b> .
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	Noted. As a part of EIA for RMP Dhamra, detailed Biodiversity Impact study and Management plan has been prepared and developed. Same shall be updated for getting it validated through State Biodiversity Board and further implemented
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.	Complied. As a part of existing operations, periodic monitoring program covering all seasons on various aspects of the coastal environs is being carried out by NABL & MoEFCC accredited laboratory. The monitoring results for the period Oct-19 – Mar-20 is enclosed as <b>Annexure-I</b> .
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.	Noted. As a part of existing operations, Periodic monitoring of air and water quality is carried out through MOEFCC and NABL approved

		laboratory. However, with expansion, we will install CAAQMS for online Air monitoring Further we shall also explore possibility of tie up with SPCB "Sagar Utkal" for carrying our Marine online monitoring
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	Noted. As a part of existing operation, following pollution control measures are being implemented at site <ul style="list-style-type: none"> <li>• Transportation of Coal/Iron ore is done in covered conveyor belt system.</li> <li>• Water Sprinkling is being carried out on road on regular basis</li> <li>• Dust suppression system has been installed in dust prone area to mitigate the fugitive emission.</li> <li>• Dust buster &amp; rain gun system has been deployed in stack yard to mitigate the fugitive emission from the stack yards.</li> <li>• Coal &amp; iron ore stack yards are being bounded with green belt with proper drain. However the same will be ensured as a part of expansion.</li> </ul>
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.	Noted for compliance. As a part of existing operation periodic monitoring of marine water quality is done through MOEFCC and NABL approved laboratory. However the possibility of installing Online Turbidity Monitoring will be explored.
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	Noted and will be complied. As a part of existing operation periodic monitoring program covering all seasons on various aspects of the marine ecology monitoring is being carried out by NABL & MoEFCC accredited laboratory. The monitoring results for the period Oct 19 – Mar 2020 is enclosed as <b>Annexure-I</b> .
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.	Noted. Utmost care is being taken to avoid spillage of fuel/engine oil and lubricants from the construction site. In case of any accidental spillage, saw dust or sand is being used along with absorbent to arrest the spillage. Used oil/waste oil/waste containing oils are handed over to SPCB approved authorized recyclers.
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	Noted Two numbers of STP of capacity 140 KLD and 15 KLD are being used for treatment of

	<p>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</p>	<p>sewage water generated from Port, vessel and Township premises.</p> <p>Waste management are being done as per the prescribed guideline. We have color coded waste bins for collection and segregation of different types of waste. Generated waste are being handled as per the 5R concept of waste management and as per the vision of APSEZ to become "A Zero Waste Company".</p> <p>Waste reception facility is being provided for visiting vessel. The collected waste are being handled and disposed as per the prescribed guideline.</p> <p>Plastic wastes are sent to the Cement Plant for energy recovery through co-processing. Management of plastic waste are being done as per the Plastic Waste Management Rules, 2016</p> <p>The E-Waste has been sent to an authorized recycler for proper disposal Management of plastic waste are being done as per the E-Waste Management Rules, 2016.</p>
XXIII	<p>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</p>	<p>Noted &amp; will be complied</p>
XXIV	<p>All the recommendations mentioned in the rapid risk assessment report, disaster management plan and safety guidelines shall be implemented.</p>	<p>Noted &amp; will be complied</p>
XXV	<p>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.</p>	<p>Noted.</p>
XXVI	<p>Necessary arrangement for general safety and occupational health of people should be done in letter and spirit.</p>	<p>Noted.</p> <p>We have a strict safety regimen with the motto "Safety First".</p> <p>Safety Observations are mandatory from every department of the port and immediate measures are undertaken to rectify the shortcoming.</p> <p>OHSAS Guidelines and MSIHG Guidelines are followed for handling of Hazardous materials. First aid center facilities has been provided for employees and workers. Inline to this a wellness center is also operated outside the</p>

		port premises for providing medical facilities for villagers.
XVII	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	Noted. Environment Management Plan is enclosed as <b>Annexure-XIII</b> .
XVIII	The effluent generated by desalination plant and FSRU should be released at designated sites as suggested in the EIA report.	Noted At present, no FSRU & desalination plant has been developed.
XIX	The company shall draw up and implement corporate social Responsibility plan as per the Company's Act of 2013.	Noted The details work carried out under Corporate Social Responsibility plan for the period of Oct 2019 to Mar 2020 is enclosed as <b>Annexure-XVIII</b>
XXX	As per the Ministry's Office Memorandum F.No. 22-65/2017-IA.III dated 1st 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.	Noted. Annual CER plan will be prepared inline to actual budget planned for the financial year and the same will be implemented. The status will be periodically submitted to the regulatory authorities as a part of Half yearly compliance report.
<b>B. Standard Conditions:</b>		
<b>I. Statutory Compliance:</b>		
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 (in case of the presence of schedule I species in the study area).	Noted. DPCL has taken all-out effort for conservation of Wildlife in consultation with Forest department. Preparation of a site specific management plan is in process.

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.	Noted. All the construction are carried out according to the provisions of CRZ notification, 2019 and State Coastal Zone Management Plan.
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.	Noted We have received permission for 6 nos. of bore wells from CGWA for drawl of ground water.
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	Noted
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.	Noted 20,000 KVA power is being sourced from NESCO Odisha. The Agreement copy is attached as <b>Annexure-XIX</b> .
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.	Noted
<b>II. Air quality monitoring and preservation:</b>		
I	The project proponent shall install system to carryout Ambient Air Quality monitoring for common/criterion parameters relevant to the main pollutants released (e.g. PM <sub>10</sub> and PM <sub>2.5</sub> in reference to PM emission, and SO <sub>2</sub> and NO <sub>x</sub> in reference to SO <sub>2</sub> and NO <sub>x</sub> emissions) within and outside the project area at least at four locations (one within and three outside the plant area at an angle of 120° each), covering upwind and downwind directions.	Noted  Ambient Air Quality Monitoring (twice in a week) is also being carried out by NABL & MoEF&CC accredited agency. All emissions are well with the prescribed standards.  Air monitoring is being carried out at 6 locations (3 inside & 3 outside). The locations are selected as per the EIA and at an angle of 120° each covering both upwind & down wind.
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	Noted. As a part of existing operation, transportation of Coal/Iron ore is done in covered conveyor belt system. Water Sprinkling is being carried out on road on regular basis through water tanker. Dust suppression system has been installed in dust prone area to mitigate the fugitive emission. Dust buster & rain gun system has been deployed in stack yard to mitigate the fugitive emission from the stack yards.

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.	Noted & will be complied.
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.	Noted No such activity is being carried out during Oct 2019-Mar 2020.
V	The vessels shall comply the emission norms prescribed from time to time.	Noted MARPOL and Ballast Water Convention guidelines are enforced by DPCL for visiting ships.
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.	Noted As a part of existing operation 5 nos of standby DG Sets of capacity ranging from 160 KVA to 200 KVA have been provided for emergency backups & uninterrupted power supply to the water supply system and firefighting system
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.	Noted.& will be complied
<b>III. Water quality monitoring and preservation:</b>		
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.	Noted & will be complied Drainage pattern is being maintained. Creeks are periodically cleaned to ensure no blockage for free flowing of water from both outside



		and inside. Further inline to Revised Master Plan proper drainage pattern will be maintained as per the RMP drainage plan.
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	Noted DPCL ensuring dredging through TSHD and further regular marine monitoring is carried out to check the level of turbidity  Silt curtain shall be used, when working near sensitive areas
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.	Noted Vessels are not allowed to discharge the onboard waste water in estuary/channel. The vessels have their own STP where sewage water is being treated. However DPCL will explore the possibility of treating waste water generated from ships.
IV	Measures should be taken to contain, control and recover the accidental spills of fuel and cargo handle.	Noted Oil spill control equipment such as booms / barriers has been provided for oil containment and skimmers for their recovery. Response time for shutting down the fueling, containment and recovery is quicker. Oil Spill Containment equipment are ensured always in readiness. Oil Spill drills are conducted on a regular basis.
V	The project proponents will draw up and implement a plan for the management of temperature differences between intake waters and discharge waters	Noted
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.	Noted Marine water quality & productivity is being monitored by MoEF&CC accredited laboratory, there are no adverse impact on water quality and marine productivity in the vicinity. Adequate precaution has been taken at construction site to prevent any such 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.	Noted As a part of existing operation, 2.05 Cuces of fresh water is being taken from River Mantei and 600 m3/d of water is being taken from ground.
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.	Noted.  As a part of existing operation, two STP of capacity 140 KLD and 15 KLD are used for treatment of sewage from Port and township area. Augmentation of 15 KLD in existing STP and 150 KLD new STP are also in progress. Periodic testing of water quality is being done by MOEFCC approved laboratory and the

		results are being submitted to SPCB/MOEFCC. All results are well within the prescribed standards. The treated water is being used for horticulture purpose.
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.	Noted & will be complied. However for existing operation, approval has been taken from SPCB Odisha. Copy of CTO is enclosed as <b>Annexure-XVII</b>
X	No diversion of the natural course of the river shall be made without prior permission from the Ministry of Water resources.	Noted & will be complied
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.	Noted NIOT Chennai, has carried out shoreline change study alongside Dhamra and Kanika sand shore and also impact of dredging and dumping of sediment on Dhamra Shoreline Change and on ecologically sensitive areas. The studies concluded that there are no significant impacts observed on the shoreline and nearby ecologically sensitive areas because of the ongoing activity.
<b>IV. Noise monitoring and prevention:</b>		
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	Noted. As a part of existing operation Noise monitoring is being carried out on monthly basis by an accredited NABL & MOEFCC laboratory. The Monitoring results are also submitted to the Regional office on regular basis. The copy is enclosed as <b>Annexure I.</b>
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 equipment.	Noted As a part of existing operations, <ul style="list-style-type: none"> <li>• Noise attenuation is being practiced for noisy equipment by employing suitable techniques such as acoustic controls, insulation and vibration dampers</li> <li>• Personnel exposed to noise levels beyond threshold limits has been provided with protective gear like earplugs, earmuffs, etc.</li> <li>• DPCL have a strict maintenance regimen for all plant machinery and equipment which is reviewed by the management every day.</li> <li>• Noise Monitoring is being carried out by a NABL &amp; MOEFCC accredited laboratory.</li> </ul>

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.	Noted and will be complied. DG set used in existing operation is equipped with acoustic enclosure and noise barrier
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	Noted. As a part of Existing operation total 6 nos. of Noise Monitoring Location is available. Noise Level Monitoring is being carried out on monthly basis by a NABL & MOEFCC accredited laboratory. All results are within the prescribed limits. The results is enclosed as <b>Annexure-I</b>
<b>V. Energy Conservation measures:</b>		
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	Noted. DPCL had already installed solar lights along the roads and common areas. Same will be continued during Revised Master Plan of Dhamra Port.
II	Provide LED lights in their offices and residential areas	Noted. DPCL will explore the possibility of using LED light in their offices and residential area.
<b>VI. Waste management:</b>		
I	Dredged material shall be disposed safely in the designated areas.	Noted As a part of existing operation maintenance dredging has been carried out for the period of Oct 2019 – Mar2020. The dredged material is being disposed in the designated areas as proposed in the EIA report.
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	Noted NIOT Chennai, has carried out shoreline change study alongside Dhamra and Kanika sand shore and also impact of dredging and dumping of sediment on Dhamra Shoreline Change and on ecologically sensitive areas. The studies conclude that there are no significant impacts observed on the shoreline and nearby ecologically sensitive areas because of the ongoing activity. Same will be monitored at periodic interval.
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	As a part of existing operation 3 nos. of settling pond has also been constructed with addition of chemical dosing for treatment of waste water generated from the port.  We have color coded waste bins for segregating different category of solid waste. Waste generated is being handled in line to 5R

		concept of waste management, as per the vision of APSEZ to become "A Zero Waste Company".
IV	The solid wastes shall be managed and disposed as per the norms of the Solid Waste Management Rules, 2016	Noted DPCL has developed a vision for making itself – "A Zero Waste Port" by adoption of 5R principle of waste management i.e Reduce, Reuse, Reprocess, Recycle & Recover. During the period Oct 2019 – Mar 2020 a total quantity of 88.312 MT of solid waste has been handled in line to 5R concept. We have color coded bins for segregating different category of solid waste. Biodegradable wastes are used for compost preparation. Recyclable wastes are handed over to authorized recyclers.
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.	Noted & will be complied
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	Noted. DPCL has developed a vision for making itself – "A Zero Waste Port" by adoption of 5R principle of waste management i.e Reduce, Reuse, Reprocess, Recycle & Recover. During the period Oct-19 to Mar-2020 a total quantity of 88.312 MT of solid waste has been handled in line to 5R concept. We have color coded bins for segregating different category of solid waste. Biodegradable wastes are used for compost preparation. Recyclable wastes are handed over to authorized recyclers.
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	Noted & will be complied
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	Noted As a part of Existing Operation, DPCL have developed its Own Oil Spill Contingency Plan and will be implemented as required.
<b>VII. Green Belt:</b>		

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.	<p>Noted.</p> <p>As a part of existing operation large nursery of multi species has been established for greenbelt development. The nursery constructed in an area of 1.5 acres with modern poly house &amp; green house for effective plant production. More than 1 lakhs saplings were developed from the nursery during last year having local plant species, forest species, seasonal plants, ornamental shrubs, Indoor plants, medicinal plants, etc. Forest species and local species like Casuriana, Terminalia, Bahunia, Pongamia, Tecoma, Peltophorum, Delonix, Neem, etc are produced. Total 14098 nos. of plantation has been carried out during Oct 2019 – Mar 2020. The Total cost spent for plantation for the period Oct-19-mar-2020 is 98.30 lakhs.</p> <p>DPCL has obtained Environment &amp; CRZ clearance for Revised Master Plan expansion. Site is undergoing expansion inline to Revised master Plan development. Greenbelt is being developed inline to this. Port layout is enclosed as <b>Annexure IV</b>.</p> <p>Plantation has been done along the both edges of the 62.5 km rail corridor, in adjacent villages and inside the port premises. Photographs are enclosed as <b>Annexure V</b>.</p>
II	Top soil shall be separately stored and used in the development of green belt	Complied
<b>VIII. Marine Ecology:</b>		
I	Dredging shall not be carried out during the fish breeding and spawning seasons.	Noted & will be complied.
II	Dredging, etc shall be carried out in the confined manner to reduce the impacts on marine environment	<p>Noted</p> <p>Dredging is carried out in the confined manner and the marine water quality monitoring is done by NABL &amp; MOEFCC accredited laboratory on periodic basis. The results concludes that there is no significant impact on marine water quality due to dredging.</p>
III	The dredging schedule shall be so planned that the turbidity developed is dispersed soon enough to prevent any stress on the fish population.	<p>Noted &amp; will be complied.</p> <p>As a part of Existing Operation turbidity is being monitored on periodic basis by a NABL &amp; MOEFCC accredited laboratory (<b>Annexure I</b>).</p>
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	Noted & will be complied

	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	Noted & will be complied. As a part of EIA for RMP Dhamra, detailed Biodiversity Impact study and Management plan has been prepared and developed. Same shall be updated for getting it validated through State Biodiversity Board and further implementation
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	Noted & will be complied As a part of existing operation periodic monitoring program covering all seasons on various aspects of the marine ecology monitoring is being carried out by NABL & MoEFCC accredited laboratory.
<b>IX. Public hearing and Human health issues:</b>		
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	Noted
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.	Complied Workers are strictly enforced to wear PPE equipment's like dust mask, ear muffs, ear plugs whenever & wherever required as per the DPCL PPE policy.
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.	Not Applicable
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	Complied The employees, workers of DPCL have been trained on safety guidelines. Regular Fire training, Mock Drills are conducted as per the Crisis Management Plan. The details of drills,

	implemented and monitored by the concerned officials to prevent the occurrence of untoward incidents/ accidents	Safety training, Fire training conducted towards dock safety for the period Oct 2019 - Mar 2020 is enclosed as <b>Annexure II &amp; Annexure-III.</b>
V	Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented	Noted. As a part of Existing Operation DPCL have Emergency Response Plan & that is implemented as & when required. Copy is enclosed as <b>Annexure XX.</b>
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	Noted & is being complied
VII	Occupational health surveillance of the workers shall be done on a regular basis	Complied Occupational Health Surveillance of the workers is being carried out on half yearly basis at the time of gate pass renewal.
<b>X. Corporate Environment Responsibility:</b>		
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.	Noted
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.	DPCL has a well-structured Environmental Management Cell, staffed with qualified man power at site supported by team at Head Office in Ahmedabad.
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	Noted & will be complied. As a part of existing operation EMP has been prepared. The copy is enclosed as <b>Annexure-XIII.</b>

	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.	Noted. Internal and external IMS audit (Integrated Management System) is being carried out by internal auditor (half yearly) / external agency (annually) as per ISO 14001:2015 (Environment Management System). Same will be continued for Revised Master Plan development of the Port.
<b>XI. Miscellaneous:</b>		
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.	Complied The Paper clippings of the Advertisement was already submitted in last Half Yearly compliance report vide letter no DPCL/ENV/OSPCB/2020-20 dated 01.02.2020.
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.	Complied. The receipt of the said letters was already submitted in last Half Yearly compliance report vide letter no DPCL/ENV/OSPCB/2020-20 dated 01.02.2020.
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.	Complied. Status of Compliance of the stipulated environment clearance conditions for Revised Master Plan, including results of monitory data will be updated 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.	Complied. Last Half Yearly compliance report was submitted vide letter no DPCL/ENV/OSPCB/2020-20 dated 01.02.2020.
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	Complied Environmental Statement for FY 2018-19 was submitted to SPCB Odisha vide our letter no DPCL/ENV/OSPCB/2019-105 dated 26th Sep 2019.
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	Complied As a part of Existing operation Ambient Level is being monitored with a frequency (weekly twice) by a NABL & MOEFCC accredited



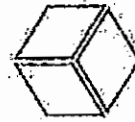
	convenient location near the main gate of the company in the public domain.	laboratory. The Monitoring data is being displayed at DPCL main gate for public view.
VII	The project proponent shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities, commencing the land development work and start of production operation by the project	Noted
VIII	The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.	Noted
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	Noted
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).	Noted
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.	Noted
XII	The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory	Noted
XIII	The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.	Noted
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	Noted. Regional Office of Ministry of Environment, Forests & Climate Change, Bhubaneswar during their visit. Details required by the Regional Office were submitted as and when required. Last inspection was carried out on 12.02.2018. Compliance status of the observed point were submitted vide our letter dated 25.07.2018 & 04.02.2019.
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	Noted

	Supreme Court of India / High Courts and any other Court of Law relating to the subject matter	
<b>XVI</b>	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.	Noted
<b>8.</b>	This issues with the approval of the Competent Authority.	Noted

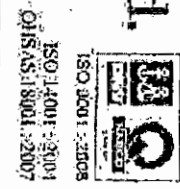
## LIST OF ANNEXURES

<u>S. No</u>	<u>Annexure Number</u>	<u>Details</u>
1	Annexure-I	Environment Monitoring Report
2	Annexure-II	Types and quantity of fire extinguishers
3	Annexure-III	Details of Mock Drills
4	Annexure-IV	Port Layout
5	Annexure-V	Green Belt Details
6	Annexure-VI	Cost Break up of Environment Expenditure
7	Annexure-VII	INCOIS Board
8	Annexure-VIII	Kanika Island Conservation Plan approved letter
9	Annexure-IX	Acknowledge copy of DFO , Wild Life Division
10	Annexure-X	Phase-II-CTE
11	Annexure- XI	Permission letter from DFO to carry out the plantation in Forest village
12	Annexure-XII	Public Hearing Compliance
13	Annexure-XIII	EMP & Action Plan Compliance
14	Annexure-XIV	License and NOC from Fire Dept.
15	Annexure-XV	Environment Statement for FY 2018-19
16	Annexure-XVI	Consent to Establish- Revised Master Plan
17	Annexure-XVII	Consent to Operate Phase-II (Renewed copy)
18	Annexure-XVIII	CSR Cost Expenditure Details
19	Annexure-XIX	Power Agreement NESCO
20	Annexure-XX	DMP/Emergency Management Plan

**ANNEXURE-I**  
**ENVIRONMENT MONITORING REPORT**



**Visiontek Consultancy Services Pvt. Ltd.**  
 (An Enviro Engineering Consulting Cell)



**AMBIENT AIR QUALITY MONITORING REPORT FOR OCTOBER -2019**

Ref: Envlab/19/R-5492

Date: 04/11/2019

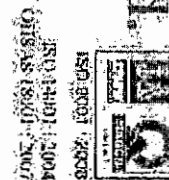
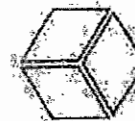
<b>Client Name &amp; Address</b>	M/s The Dhamra Port Company Limited, Dosinga, Bhadrak, Odisha
<b>Work Order No.</b>	4800044480, Date: 18.07.2019
<b>Reference No.</b>	Envlab/19/R-5492
<b>Type of Sample</b>	Ambient Air Sample
<b>Sampling Location</b>	AAQMS-1: Colony Area
<b>Sampling Done by</b>	Mr. Manoj Patra
<b>Sampling Duration</b>	24hrs
<b>Monitoring Instrument</b>	RDS (APM 460), FPS (APM 550) Envirotech, CO Analyzer, VOC Sampler

Date	PARAMETERS											
	PM <sub>10</sub> (µg/m <sup>3</sup> )	PM <sub>2.5</sub> (µg/m <sup>3</sup> )	SO <sub>2</sub> (µg/m <sup>3</sup> )	NO <sub>x</sub> (µg/m <sup>3</sup> )	CO (mg/m <sup>3</sup> )	NH <sub>3</sub> (µg/m <sup>3</sup> )	O <sub>3</sub> (µg/m <sup>3</sup> )	Pb (µg/m <sup>3</sup> )	Ni (ng/m <sup>3</sup> )	As (ng/m <sup>3</sup> )	Benzene (µg/m <sup>3</sup> )	BaP (ng/m <sup>3</sup> )
01.10.2019	55.0	29.0	9.7	13.6	1.14	21.7	5.8	BDL	BDL	BDL	BDL	BDL
04.10.2019	54.0	26.0	10.4	14.5	1.14	22.5	5.2	BDL	BDL	BDL	BDL	BDL
09.10.2019	63.0	32.0	9.5	13.1	1.14	23.4	5.7	BDL	BDL	BDL	BDL	BDL
12.10.2019	52.0	27.0	11.3	15.2	1.14	21.7	5.1	BDL	BDL	BDL	BDL	BDL
15.10.2019	60.0	32.0	10.6	16.4	1.14	21.3	6.3	BDL	BDL	BDL	BDL	BDL
18.10.2019	57.0	30.0	11.5	15.8	1.14	22.8	5.9	BDL	BDL	BDL	BDL	BDL
22.10.2019	54.0	28.0	10.3	14.2	1.14	21.6	5.6	BDL	BDL	BDL	BDL	BDL
25.10.2019	46.0	24.0	8.6	12.7	1.14	22.4	5.2	BDL	BDL	BDL	BDL	BDL
29.10.2019	50.0	27.0	10.2	13.4	1.14	23.5	6.1	BDL	BDL	BDL	BDL	BDL
Monthly Average	54.6	28.3	10.2	14.3	1.14	22.3	5.6	BDL	BDL	BDL	BDL	BDL
NAAQ Standard	100	60	80	80	4	400	100	1	20	6	5	1
TEST METHOD	Gravimetric IS 5182 Part-23	Gravimetric EPA 1998	Improved West & Gaeke Method IS 5182 (Part-2) RA2017	Modified Jacob & Hochheiser Method IS 5182 (Part-6) RA2017	Non-Dispersive Infrared Method IS 5182 (Part-10) 1999	Indo Phenol Blue Method Air Sampling 3rd Edn. By James P. Lodge (Method-101)	Chemical Method Air Sampling 3rd Edn. By James P. Lodge (Method-111)	AAS Method IS 5182 (Part-32) 2004			Gas Chromatography IS 5182 (Part-11) 2006	Solvent Extraction IS 5182 (Part-12) 2004

NB: \*NAAQ- National Ambient Air Quality Standard as per 18<sup>th</sup> Nov. 2009 Gatt. Notification  
 BDL Values: SO<sub>2</sub> < 4 µg/m<sup>3</sup>, NO<sub>x</sub> < 9 µg/m<sup>3</sup>, O<sub>3</sub> < 4 µg/m<sup>3</sup>, NH<sub>3</sub> < 20 µg/m<sup>3</sup>, Ni < 0.01 ng/m<sup>3</sup>, As < 0.001 ng/m<sup>3</sup>, C<sub>6</sub>H<sub>6</sub> < 0.001 µg/m<sup>3</sup>, BaP < 0.002 ng/m<sup>3</sup>, Pb < 0.01 µg/m<sup>3</sup>, CO < 0.1 mg/m<sup>3</sup>



Plot No. M-22/23, (Industrial Area) Phase-1, Gm. Bhambeswar-751024, Dist. Khurda, Orissa, India, T. No. 7752017005  
 E-mail: visiontek@vsnl.org, visiontek@gmail.com, visionks.in@yahoo.co.in, Visit us at: www.vcspl.org  
 Certified For Better Environment



## AMBIENT AIR QUALITY MONITORING REPORT FOR OCTOBER -2019

<b>Client Name &amp; Address</b>	M/S The Dharma Port Company Limited, Dosinga, Bhadrak, Odisha
<b>Work Order No.</b>	4800044480, Date:18.07.2019
<b>Reference No.</b>	Envlab/19/R-5493
<b>Type of Sample</b>	Ambient Air Sample
<b>Sampling Location</b>	AAQMS-2, Near BMH I
<b>Sampling Done by</b>	Mr. Manoj Patra
<b>Sampling Duration</b>	24hrs
<b>Monitoring Instrument</b>	RDS (APM 460), FPS (APM 550) Envirotech, CO Analyzer, VOC Sampler.

Ref: EIMANI-R-5493

Date: 04.11.2019

Date	PARAMETERS											
	PM <sub>10</sub> (µg/m <sup>3</sup> )	PM <sub>2.5</sub> (µg/m <sup>3</sup> )	SO <sub>2</sub> (µg/m <sup>3</sup> )	NO <sub>x</sub> (µg/m <sup>3</sup> )	CO (mg/m <sup>3</sup> )	NH <sub>3</sub> (µg/m <sup>3</sup> )	O <sub>3</sub> (µg/m <sup>3</sup> )	Pb (µg/m <sup>3</sup> )	Ni (ng/m <sup>3</sup> )	As (ng/m <sup>3</sup> )	Benzene (µg/m <sup>3</sup> )	BaP (ng/m <sup>3</sup> )
01.10.2019	62.0	33.0	12.9	17.2	1.72	22.5	7.9	BDL	BDL	BDL	BDL	BDL
04.10.2019	55.0	29.0	11.6	15.8	1.72	23.7	8.3	BDL	BDL	BDL	BDL	BDL
09.10.2019	67.0	35.0	10.8	14.7	1.15	24.4	6.9	BDL	BDL	BDL	BDL	BDL
12.10.2019	61.0	32.0	12.4	17.5	1.72	25.3	7.7	BDL	BDL	BDL	BDL	BDL
15.10.2019	69.0	35.0	13.2	18.4	2.29	26.1	9.1	BDL	BDL	BDL	BDL	BDL
18.10.2019	60.0	29.0	13.6	17.7	2.29	26.5	8.6	BDL	BDL	BDL	BDL	BDL
22.10.2019	65.0	33.0	12.8	16.8	1.72	24.6	8.4	BDL	BDL	BDL	BDL	BDL
25.10.2019	51.0	26.0	11.2	14.8	1.15	23.5	9.3	BDL	BDL	BDL	BDL	BDL
29.10.2019	57.0	29.0	12.5	16.5	1.15	23.3	8.8	BDL	BDL	BDL	BDL	BDL
Monthly Average	60.8	31.2	12.3	16.6	1.50	24.4	8.3	BDL	BDL	BDL	BDL	BDL
NAAQ Standard	100	60	80	80	1	400	100	1	20	6	5	1
TEST METHOD	Gravimetric IS 5182 (Part-2)	Gravimetric EPA 1998	Improved West & Gaeke Method IS 5182 (Part-3) IS:2017	Modified Jacob & Hochheiser Method IS 5182 (Part-6) RA2017	Non Dispersive Infrared Method IS 5182 (Part-10) 1999	Indo Phenol Blue Method Air Sampling 3rd Edn. By James P. Lodge (Method-401)	Chemical Method Air Sampling 3rd Edn. By James P. Lodge (Method-411)	AAS Method IS 5182 (Part-2):2004			Gas Chromatog nphy IS 5182 (Part-11):2006	Solvent Extraction IS 5182 (Part-12):2004

N.B:- NAAQ- National Ambient Air Quality Standard as per 18<sup>th</sup> Nov, 2009 Gatt. Notification  
 BDL Values: SO<sub>2</sub> < 4 µg/m<sup>3</sup>, NO<sub>x</sub> < 9 µg/m<sup>3</sup>, O<sub>3</sub> < 4 µg/m<sup>3</sup>, NH<sub>3</sub> < 20 µg/m<sup>3</sup>, Ni < 0.01 ng/m<sup>3</sup>, As < 0.001 ng/m<sup>3</sup>, C<sub>6</sub>H<sub>6</sub> < 0.001 µg/m<sup>3</sup>, BaP < 0.002 ng/m<sup>3</sup>, Pb < 0.001 µg/m<sup>3</sup>, CO < 10 µg/m<sup>3</sup>





# Visiontek Consultancy Services Pvt. Ltd.

(An Enviro. Engineering Consulting Cell)

ISO 9001:2014  
ISO 14001:2014  
OHSAS 18001:2007



## AMBIENT AIR QUALITY MONITORING REPORT FOR OCTOBER -2019

Client Name & Address	M/s The Dhamra Port Company Limited, Dosinga, Bhadrak, Odisha
Work Order No.	480004480, Date 18.07.2019
Reference No.	Envlab/19/R-5494
Type of Sample	Ambient Air Sample
Sampling Location	AAQMS-3: Near Jetty
Sampling Done by	Mr. Manoj Patra
Sampling Duration	24hrs
Monitoring Instrument	RDS (APM 460), FPS (APM 550) Envirotech, CO Analyzer, VOC Sampler

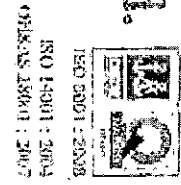
Date	PARAMETERS											
	PM <sub>10</sub> ( $\mu\text{g}/\text{m}^3$ )	PM <sub>2.5</sub> ( $\mu\text{g}/\text{m}^3$ )	SO <sub>2</sub> ( $\mu\text{g}/\text{m}^3$ )	NO <sub>x</sub> ( $\mu\text{g}/\text{m}^3$ )	CO ( $\text{mg}/\text{m}^3$ )	NH <sub>3</sub> ( $\mu\text{g}/\text{m}^3$ )	O <sub>3</sub> ( $\mu\text{g}/\text{m}^3$ )	Pb ( $\mu\text{g}/\text{m}^3$ )	Ni ( $\text{ng}/\text{m}^3$ )	As ( $\text{ng}/\text{m}^3$ )	Benzene ( $\mu\text{g}/\text{m}^3$ )	BaP ( $\text{ng}/\text{m}^3$ )
01.10.2019	74.0	41.2	25.7	34.7	2.86	30.4	11.5	0.012	BDL	BDL	BDL	BDL
04.10.2019	71.1	39.2	26.8	35.2	2.29	28.4	10.9	0.015	BDL	BDL	BDL	BDL
09.10.2019	73.2	40.1	24.7	33.6	2.86	30.5	12.4	0.013	BDL	BDL	BDL	BDL
12.10.2019	70.8	37.6	26.6	37.1	2.86	34.2	13.7	0.017	BDL	BDL	BDL	BDL
15.10.2019	75.6	42.4	28.4	39.4	2.3	32.8	13.2	0.019	BDL	BDL	BDL	BDL
18.10.2019	71.4	39.6	27.7	38.2	3.44	30.6	12.6	0.016	BDL	BDL	BDL	BDL
22.10.2019	72.2	39.8	29.5	35.6	3.44	33.5	14.5	0.014	BDL	BDL	BDL	BDL
25.10.2019	72.6	37.4	26.3	34.2	2.3	31.7	11.7	0.009	BDL	BDL	BDL	BDL
29.10.2019	70.4	38.8	28.6	36.1	2.86	32.6	12.6	0.014	BDL	BDL	BDL	BDL
Monthly Average	72.4	39.6	27.1	36.0	2.80	31.6	12.6	0.014	BDL	BDL	BDL	BDL
NAAQ Standard	100	60	80	80	4	400	100	1	20	6	5	1
TEST METHOD	Gravimetric IS 5182 Part 23	Gravimetric EPA-1978	Improved West & Geake Method IS 5182 (Part 2) RA 2017	Modified Jacob & Hochstetler Method IS 5182 (Part 6) RA 2017	Non Dispersive Infrared Method IS 5182 (Part 10) RA 1999	Indo Phenol Blue Method Air Sampling 3rd Edn. By James P. Lodge (Method-401)	Chemical Method Air Sampling 3rd Edn. By James P. Lodge (Method-411)	AAS Method IS 5182 (Part 22) 2004		Gas Chromatography IS 5182 (Part 11) 2006	Solvent Extraction IS 5182 (Part 22) 2004	

N.B. \*NAAQ- National Ambient Air Quality Standard as per 18<sup>th</sup> Nov. 2009 Govt. Notification  
 BDL Values: SO<sub>2</sub> < 4  $\mu\text{g}/\text{m}^3$ , NO<sub>x</sub> < 9  $\mu\text{g}/\text{m}^3$ , O<sub>3</sub> < 4  $\mu\text{g}/\text{m}^3$ , NH<sub>3</sub> < 20  $\mu\text{g}/\text{m}^3$ , Ni < 0.01  $\text{ng}/\text{m}^3$ , As < 0.001  $\text{ng}/\text{m}^3$ , C<sub>6</sub>H<sub>6</sub> < 0.001  $\mu\text{g}/\text{m}^3$ , BaP < 0.002  $\text{ng}/\text{m}^3$ , Pb < 0.001  $\mu\text{g}/\text{m}^3$ , CO < 50





**VISIONTEK CONSULTANCY SERVICES PVT. LTD.**  
(An Enviro Engineering Consulting Cell)



Ref: Envlab/1/R-5495

Date: 04.11.2019

**AMBIENT AIR QUALITY MONITORING REPORT FOR OCTOBER -2019**

Client Name & Address	M/s The Dhamra Port Company Limited, Dosinga, Bhadrak, Odisha.
Work Order No.	4800044480, Date 18.07.2019.
Reference No.	Envlab/1/R-5495
Type of Sample	Ambient Air Sample
Sampling Location	AAQMS-4: Dosinga Village
Sampling Done by	Mr. Manoj Patra
Sampling Duration	24hrs
Monitoring Instrument	RDS (APM 460), FPS (APM 550) Envirotech, CO Analyzer, VOC Sampler

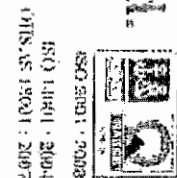
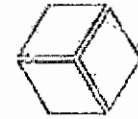
Date	PARAMETERS											
	PM <sub>10</sub> (µg/m <sup>3</sup> )	PM <sub>2.5</sub> (µg/m <sup>3</sup> )	SO <sub>2</sub> (µg/m <sup>3</sup> )	NO <sub>x</sub> (µg/m <sup>3</sup> )	CO (µg/m <sup>3</sup> )	NH <sub>3</sub> (µg/m <sup>3</sup> )	O <sub>3</sub> (µg/m <sup>3</sup> )	Pb (µg/m <sup>3</sup> )	Ni (ng/m <sup>3</sup> )	As (ng/m <sup>3</sup> )	Benzene (µg/m <sup>3</sup> )	BaP (ng/m <sup>3</sup> )
01.10.2019	67.0	35.0	13.2	19.7	2.29	22.8	6.9	BDL	BDL	BDL	BDL	BDL
04.10.2019	61.0	32.0	12.4	17.7	2.29	22.5	5.9	0.012	BDL	BDL	BDL	BDL
09.10.2019	66.0	39.0	10.9	16.4	1.15	22.2	6.2	BDL	BDL	BDL	BDL	BDL
12.10.2019	64.0	36.0	13.2	19.6	1.72	23.6	5.8	BDL	BDL	BDL	BDL	BDL
15.10.2019	63.0	40.0	11.8	17.3	2.29	22.8	6.6	0.009	BDL	BDL	BDL	BDL
18.10.2019	59.0	37.0	12.4	18.6	1.72	24.1	7.4	0.014	BDL	BDL	BDL	BDL
22.10.2019	68.0	42.0	13.7	20.2	1.72	21.7	6.3	0.011	BDL	BDL	BDL	BDL
25.10.2019	64.0	33.0	11.3	17.1	1.15	22.3	6.8	BDL	BDL	BDL	BDL	BDL
29.10.2019	63.0	37.0	12.8	18.4	1.72	23.0	7.2	BDL	BDL	BDL	BDL	BDL
Monthly Average	63.9	36.8	12.4	18.3	1.78	22.8	6.5	0.012	BDL	BDL	BDL	BDL
NAAQ Standard	100	60	80	80	4	400	100	1	20	6	5	1
TEST METHOD	Gravimetric IS 5182: Part 2	Gravimetric EPA 1998	Improved West & Geake Method IS 5182 (Part-2) RA2017	Modified Jacob & Hochheiser Method IS 5182 (Part-6) RA2017	Non Dispersive Infrared Method IS 5182 (Part-10):1999	Indo Phenol Blue Method Air Sampling, 3rd Edition, James P. Lodge (Method-401)	Chemical Method Air Sampling, 3rd Edition, James P. Lodge (Method-411)	AAS Method IS 5182(Part-22):2004			Gas Chromatogr. mby IS 5182 (Part-11):2006	Solvent Extraction IS 5182 (Part-12):2004

N.B- \*NAAQ- National Ambient Air Quality Standard as per 15<sup>th</sup> Nov. 2009 Gatt. Notification  
 BDL Values: SO<sub>2</sub>< 4 µg/m<sup>3</sup>, NO<sub>x</sub>< 9 µg/m<sup>3</sup>, O<sub>3</sub>< 4 µg/m<sup>3</sup>, NH<sub>3</sub>< 20 µg/m<sup>3</sup>, Ni<0.01 ng/m<sup>3</sup>, As< 0.001 ng/m<sup>3</sup>, C<sub>6</sub>H<sub>6</sub><0.001 µg/m<sup>3</sup>, BaP<0.001 ng/m<sup>3</sup>, CO<0.1 mg/m<sup>3</sup>



Plot No. M-22, N-21, Chaudhara Industrial Estate, Patia, Bhubaneswar-751024, Dist-Khorda, Odisha Tel: 7752017505  
 E-mail: visiontek@vsnl.com, visiontek@gmail.com, visiontek@yahoo.co.in, Visit us at: www.vcspl.org  
 Consultant For Better Environment





Ref: Envlab/1/R-5496

Date: 04.11.2019

## AMBIENT AIR QUALITY MONITORING REPORT FOR OCTOBER -2019

Client Name & Address	M/s The Dhamra Port Company Limited, Dosinga, Bhadrak, Odisha
Work Order No.	4800044480, Date 18.07.2019
Reference No.	Envlab/19/R-5496
Type of Sample	Ambient Air Sample
Sampling Location	AAQMS-5: Kanak Prasad Village
Sampling Done by	Mr. Manoj Patra
Sampling Duration	24hrs
Monitoring Instrument	RDS (APM 460); FPS (APM 550) Envirotech, CO Analyzer, VOC Sampler

Date	PARAMETERS											
	PM <sub>10</sub> (µg/m <sup>3</sup> )	PM <sub>2.5</sub> (µg/m <sup>3</sup> )	SO <sub>2</sub> (µg/m <sup>3</sup> )	NO <sub>x</sub> (µg/m <sup>3</sup> )	CO (mg/m <sup>3</sup> )	NH <sub>3</sub> (µg/m <sup>3</sup> )	O <sub>3</sub> (µg/m <sup>3</sup> )	Pb (µg/m <sup>3</sup> )	Ni (ng/m <sup>3</sup> )	As (ng/m <sup>3</sup> )	Benzene (µg/m <sup>3</sup> )	BaP (ng/m <sup>3</sup> )
01.10.2019	51.0	26.0	7.3	13.7	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
04.10.2019	57.0	29.0	6.8	12.5	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
09.10.2019	47.0	25.0	5.9	10.8	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
12.10.2019	55.0	29.0	7.3	12.6	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
15.10.2019	50.0	26.0	6.8	11.7	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
18.10.2019	61.0	32.0	7.7	13.5	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
22.10.2019	57.0	30.0	7.4	14.1	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
25.10.2019	49.0	26.0	5.8	12.8	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
29.10.2019	54.0	28.0	6.5	13.2	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Monthly Average	53.4	27.9	6.8	12.8	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
NAAQ Standard	100	60	80	80	4	400	100	1	20	6	5	1
TEST METHOD	Gravimetric IS 5182: Part 23	Gravimetric EPA 1998	Improved West & Gaeke Method IS 5182 (Part-2) RA2017	Modified Jacob & Hochheiser Method IS 5182 (Part-6) RA2017	Non-Dispersive Infrared Method IS 5182 (Part-10):1999	Indo Phenol Blue Method Air Sampling, 3rd Edn. By James P. Lodge (Method-404)	Chemical Method Air Sampling, 3rd Edn. By James P. Lodge (Method-411)	AAS Method IS 5182(Part-22):2004			Gas Chromatography IS 5182 (Part-11):2006	Solvent Extraction IS 5182 (Part-12):2004

N.B. \*NAAQ- National Ambient Air Quality Standard as per 18<sup>th</sup> Nov. 2009 Gatr. Notification

BDL Values: SO<sub>2</sub>< 4 µg/m<sup>3</sup>, NO<sub>x</sub>< 9 µg/m<sup>3</sup>, O<sub>3</sub>< 4 µg/m<sup>3</sup>, NH<sub>3</sub><20 µg/m<sup>3</sup>, Ni<0.01 ng/m<sup>3</sup>, As < 0.001 ng/m<sup>3</sup>, C<sub>6</sub>H<sub>6</sub><0.001 µg/m<sup>3</sup>, BaP<0.002 ng/m<sup>3</sup>, Pb<0.001 µg/m<sup>3</sup>, CO<0.1 mg/m<sup>3</sup>





# Visiontek Consultancy Services Pvt. Ltd.

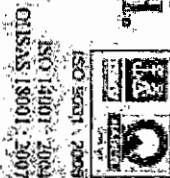
An Enviro Engineering Consultancy Cell

## AMBIENT AIR QUALITY MONITORING REPORT FOR OCTOBER -2019

Client Name & Address	M/s The Dhamra Port Company Limited, Dosinga, Bhadrak, Odisha.
Work Order No.	4800044480, Date: 18.07.2019
Reference No.	Envlab/19/R-5497
Type of Sample	Ambient Air Sample
Sampling Location	AAQMS-6: Eco Sensitive zone (Near Bhitarkanika)
Sampling Done by	Mr. Manoj Patra
Sampling Duration	24hrs
Monitoring Instrument	RDS (APM-460), FBS (APM-550) Envirotech, CO Analyzer, VOC Sampler

Date	PARAMETERS											
	PM <sub>10</sub> (µg/m <sup>3</sup> )	PM <sub>2.5</sub> (µg/m <sup>3</sup> )	SO <sub>2</sub> (µg/m <sup>3</sup> )	NO <sub>x</sub> (µg/m <sup>3</sup> )	CO (mg/m <sup>3</sup> )	NH <sub>3</sub> (µg/m <sup>3</sup> )	O <sub>3</sub> (µg/m <sup>3</sup> )	Pb (µg/m <sup>3</sup> )	As (ng/m <sup>3</sup> )	Ni (ng/m <sup>3</sup> )	Benzene (µg/m <sup>3</sup> )	BaP (ng/m <sup>3</sup> )
01.10.2019	33.0	17.0	BDL	BDL	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
04.10.2019	39.0	21.0	BDL	BDL	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
09.10.2019	42.0	23.0	4.8	9.7	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
12.10.2019	37.0	19.0	4.6	10.5	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
15.10.2019	41.0	21.0	4.6	BDL	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
18.10.2019	44.0	23.0	4.7	10.1	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
22.10.2019	47.0	25.0	5.1	10.7	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
25.10.2019	43.0	22.0	BDL	9.5	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
29.10.2019	40.0	19.0	4.6	9.8	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Monthly Average	40.7	21.1	4.8	10.1	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
NAAQ Standard	100	60	80	80	4	400	100	1	6	20	5	1
TEST METHOD	Gravimetric IS 5182 Part 23	Gravimetric EPA-1990b	Improved West & Geake Method IS 5182 (Part-2) RA2017	Modified Jacob & Hochheiser Method IS 5182 (Part-6) RA2017	Non Dispersive Infrared Method IS 5182 (Part-10) 1999	Indo Phenol Blue Method Air Sampling 3rd Edn/By James P. Lodge (Method-461)	Chemical Method Air Sampling 3rd Edn/By James P. Lodge (Method-411)	AAS Method IS 5182 (Part-22) 2004			Gas Chromatogr. app. IS 5182 (Part-11) 2006	Solvent Extraction IS 5182 (Part-12) 2004

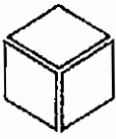
N.B: \*NAAQ-National Ambient Air Quality Standard as per 18<sup>th</sup> Nov. 2009 Gatt. Notification  
 BDL Values: SO<sub>2</sub> < 4 µg/m<sup>3</sup>, NO<sub>x</sub> < 9 µg/m<sup>3</sup>, O<sub>3</sub> < 4 µg/m<sup>3</sup>, NH<sub>3</sub> < 20 µg/m<sup>3</sup>, Ni < 0.01 ng/m<sup>3</sup>, As < 0.001 ng/m<sup>3</sup>, C<sub>6</sub>H<sub>6</sub> < 0.001 µg/m<sup>3</sup>, BaP < 0.002 ng/m<sup>3</sup>, Pb < 0.001 µg/m<sup>3</sup>, CO < 0.1 mg/m<sup>3</sup>



Ref: Envlab/19/R-5497

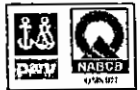
Date: 04.11.2019

Plot No. A-22&23, Chandra Industrial Estate, Patia, Bhubaneswar-751024, Dist. Khurda, Odisha. Tel: 7752017905  
 Email: visiontek@gmail.com, visiontek@gmail.com, visiontek@yahoo.co.in, Visit us at: www.visiontek.com  
 Certified For Better Environment



# Visiontek Consultancy Services Pvt. Ltd.

(An Enviro Engineering Consulting Cell)



ISO 9001 : 2008  
ISO 14001: 2015  
OHSAS 45001: 2018

Ref: Envlab/19/R-5498

Date : 04.11.2019

## NOISE QUALITY ANALYSIS REPORT FOR OCTOBER-2019

Client Name & Address	M/s The Dhamra Port Company Limited, Dosinga, Bhadrak, Odisha
Work Order No.	4800044480, Date 18.07.2019
Analysis No.	Envlab/19/R-5498
Type of Sample	Noise Sample
Sampling Done by	Mr. Samyashree Nayak

Sl. No.	Date of Monitoring	Location	NL Day Time dB(A)			NL Night Time dB(A)		
			MAX	MIN	AVG.	MAX	MIN	AVG.
1	23.10.2019	Near Jetty (I)	72.3	68.9	70.6	68.2	64.2	66.2
2	17.10.2019	Near BMH (I)	64.8	44.0	54.4	40.6	42.0	46.3
3	04.10.2019	Near Colony (R)	54.3	48.6	51.45	44.2	42.1	43.1
4	05.10.2019	Dosinga Village (R)	53.0	46.0	49.5	44.1	39.6	41.8
5	25.10.2019	Kanak Prasad Village(R)	56.1	48.1	52.1	44.6	40.8	42.7
6	31.10.2019	Eco Sensitive Zone	42.5	40.6	41.5	38.8	33.8	36.3

\*NL- Noise Level, I- Industrial, R-Residential

### National Standard of Noise Level

Area Code	Category of Area/ Zone	Permissible Limit in dB(A)	
		Day Time	Night Time
A	Industrial Area	75	70
B	Commercial Area	65	55
C	Residential Area	55	45
D	Silence Zone	50	40

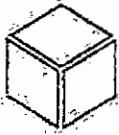
*M. P. Nayak*

Prepared by



*Puja Mishra*  
Verified by





# Visiontek Consultancy Services Pvt. Ltd.

(An Enviro-Engineering Consulting Cell)



ISO 9001:2008

ISO 14001:2004  
OHSAS 18001:2007

Ref: Envlab/19/R-5499

Date: 04.11.2019

## WATER QUALITY REPORT OCTOBER-2019

Client Name & Address:	M/s The Dhamra Port Company Limited, Dosinga, Bhadrak, Odisha
Work Order No.	4800044480; Date: 18.07.2019
Reference No.	Envlab/19/R-5499
Type of Sample	Waste Water Sample
Sampling Location	WW-1: 140 KLD STP Inlet; WW-2: 140 KLD STP Outlet
Date of Sampling	04.10.2019
Date of Analysis	05.10.2019 to 11.10.2019
Sampling Done by	Mr. Samyashree Nayak

Sl. No.	Name of the Parameters	Unit	Testing Method	Standard as per Schedule-VI of EP Rules, 1986 Amended 2015 (Discharge to Inland Surface Water)	Analysis Result	
					WW-1	WW-2
1	pH	-	APHA 45001 B	6.0-9.0	7.28	7.43
2	Color	Hazen	APHA 2120 B,C	-	Blackish	CL
3	Odour	-	APHA 2150 B	-	Pungent Smell	U/O
4	Appearance	-	APHA 2110	-	Turbid	Clear
5	Total Suspended Solids	mg/l	APHA 2540 D	100	83	12
6	Biochemical Oxygen Demand as BOD (3 days at 27°C)	mg/l	APHA 5210 B	30	77	8
7	Chemical Oxygen Demand (COD)	mg/l	APHA 5220 C	250	256	36
8	Oil & Grease	mg/l	APHA 5520 B	10	14.8	2.4
9	Ammonical Nitrogen, as NH <sub>3</sub> -N	mg/l	APHA 4500 NH <sub>3</sub> F	50	18.5	10.6
10	Total Nitrogen	mg/l	Calculation	-	22.01	13.91
11	Feecal Coliform	MPN/100ml	APHA 9221 F	-	350	69



Plot No. M-22&23, Chandaka Industrial Estate, Patia, Bhubaneswar-751024, Dist. Khurda, Odisha, Tel.: 7752017905

E-mail: visiontek@vespl.org, visiontek@gmail.com, visiontekin@yahoo.co.in, Visit us at: www.vespl.org

Commitment For Better Environment



# Visiontek Consultancy Services Pvt. Ltd.

(An Enviro Engineering Consulting Cell)



ISO 5001:2005

ISO 14001:2004

OHSAS:18001:2007

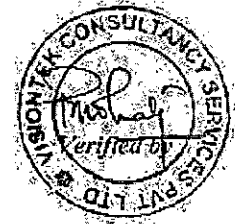
Ref: Envlab/19/R-5500

Date: 04.11.2019

## WATER QUALITY REPORT OCTOBER-2019

Client Name & Address:	M/s The Dhamra Port Company Limited, Dosinga, Bhadrak, Odisha
Work Order No.:	480004480, Date: 18.07.2019
Reference No.:	Envlab/19/R-5500
Type of Sample:	Waste Water Sample
Sampling Location:	WW-1: 140 KLD STP Inlet; WW-2: 140 KLD STP Outlet
Date of Sampling:	21.10.2019
Date of Analysis:	22.10.2019 to 26.10.2019
Sampling Done by:	Mr. Samyashree Nayak

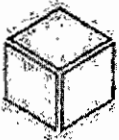
Sl. No.	Name of the Parameters	Unit	Testing Method	Standard as per Schedule-VI of EP Rules, 1986 Amnd. 2015 (Discharge to Inland Surface Water)	Analysis Result	
					WW-1	WW-2
1	pH	-	APHA 4500H B	6.0 - 9.0	7.16	7.5
2	Color	Hazen	APHA 2120 B C	-	Blackish	CL
3	Odour	-	APHA 2150 B	-	Pungent Smell	U/O
4	Appearance	-	APHA 2110	-	Turbid	Clear
5	Total Suspended Solids	mg/l	APHA 2540 D	100	89	10
6	Biochemical Oxygen Demand as BOD (3 days at 27°C)	mg/l	APHA 5210 B	30	72	7
7	Chemical Oxygen Demand (COD)	mg/l	APHA 5220 C	250	236	28
8	Oil & Grease	mg/l	APHA 5320 B	10	17.2	2.8
9	Ammonical Nitrogen as NH <sub>3</sub> -N	mg/l	APHA 4500 NH <sub>3</sub> F	50	17.4	8.9
10	Total Nitrogen	mg/l	Calculation	-	21.46	11.88
11	Faecal Coliform	MPN/100ml	APHA 9221 F	-	240	46



Plot No.-M-22&23, Chandaku Industrial Estate, Patia, Bhubaneswar-751024, Dist.-Khurda, Odisha. Tel.: 7752017905

E-mail: visiontek@vcspl.org, visiontek.in@gmail.com, visiontek.in@yahoo.co.in. Visit us at: www.vcspl.org

Committed For Better Environment



# Visiontek Consultancy Services Pvt. Ltd.

(An Enviro Engineering Consulting Cell)



ISO 9001 : 2008

ISO 14001 : 2004

OHSAS 18001 : 2007

Ref: Envlab/19/R-5501

Date: 04.11.2019

## WATER QUALITY REPORT OCTOBER-2019

Client Name & Address	M/s. The Dhamra Port Company Limited, Dosinga, Bhadrak, Odisha
Work Order No.	4800044480, Date 18.07.2019
Reference No.	Envlab/19/R-5501
Type of Sample	Waste Water Sample
Sampling Location	WW-1: 15 KLD STP Inlet; WW-2: 15 KLD STP Outlet
Date of Sampling	04.10.2019
Date of Analysis	05.10.2019 to 11.10.2019
Sampling Done by	Mr. Samyashree Nayak

Sl. No.	Name of the Parameters	Unit	Testing Method	Standard as per Schedule VI of EP Rules, 1986 Amnd. 2015 (Discharge to Inland Surface Water)	Analysis Result	
					WW-1	WW-2
1	pH	--	APHA 4500H B	6.0 - 9.0	6.86	7.31
2	Color	Hazen	APHA 2120 B/C	--	Blackish	CL
3	Odour	--	APHA 2150 B	--	Pungent Smell	U/O
4	Appearance	--	APHA 2110	--	Turbid	Clear
5	Total Suspended Solids	mg/l	APHA 2540 D	100	67	9
6	Biochemical Oxygen Demand as BOD (3 days at 27°C)	mg/l	APHA 5210 B	30	39	16
7	Chemical Oxygen Demand (COD)	mg/l	APHA 5220 C	250	452	28
8	Oil & Grease	mg/l	APHA 5520 B	10	6.0	ND
9	Ammonical Nitrogen as NH <sub>3</sub> -N	mg/l	APHA 4500 NH <sub>3</sub> F	50	12.9	2.8
10	Total Nitrogen	mg/l	Calculation	--	14.96	4.4
11	Faecal Coliform	MPN/100ml	APHA 9221 F	--	170	58

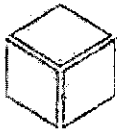


Plot No. M-22&23, Chandaka Industrial Estate, Para, Bhubaneswar-751024, Dist. Khurda, Odisha / Tel: 7752017905

E-mail: visiontek@vespl.org, visiontek.in@gmail.com, visiontek.in@yahoo.co.in. Visit us at: www.vespl.org

Committed For Better Environment





Ref: Envlab/19/R-5502

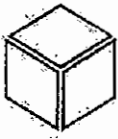
Date: 04.11.2019

## WATER QUALITY REPORT OCTOBER-2019

Client Name & Address	M/s The Dhamra Port Company Limited, Dosinga, Bhadrak, Odisha
Work Order No.	4800044480, Date 18.07.2019
Reference No.	Envlab/19/R-5502
Type of Sample	Waste Water Sample
Sampling Location	WW-1: 15 KLD STP Inlet; WW-2: 15 KLD STP Outlet
Date of Sampling	21.10.2019
Date of Analysis	22.10.2019 to 26.10.2019
Sampling Done by	Mr. Samyashree Nayak

SL. No.	Name of the Parameters	Unit	Testing Method	Standard as per Schedule-VI of EP Rules, 1986 Amnd. 2015 (Discharge to Inland Surface Water)	Analysis Result	
					WW-1	WW-2
1	pH	-	APHA 4500H <sup>+</sup> B	6.0 - 9.0	7.16	7.51
2	Color	Hazen	APHA 2120 B,C	--	Blackish	CL
3	Odour	-	APHA 2150 B	--	Pungent Smell	U/O
4	Appearance	-	APHA 2110	--	Turbid	Clear
5	Total Suspended Solids	mg/l	APHA 2540 D	100	59	7
6	Biochemical Oxygen Demand as BOD (3 days at 27°C)	mg/l	APHA 5210 B	30	35	5.2
7	Chemical Oxygen Demand (COD)	mg/l	APHA 5220 C	250	140	24
8	Oil & Grease	mg/l	APHA 5520 B	10	7.2	ND
9	Ammonical Nitrogen as NH <sub>3</sub> -N	mg/l	APHA 4500 NH <sub>3</sub> F	50	15.1	3.36
10	Total Nitrogen	mg/l	Calculation	-	17.4	5.14
11	Faecal Coliform	MPN/100ml	APHA 9221 F	-	150	33





# Visiontek Consultancy Services Pvt. Ltd.

(An Enviro Engineering Consulting Cell)



ISO 9001 : 2008  
ISO 14001: 2015  
OHSAS 45001: 2018

Ref: Envlab/19/R-6346

Date : 03.12.2019

## AMBIENT AIR QUALITY MONITORING REPORT FOR NOVEMBER-2019

Client Name & Address	M/s The Dhamra Port Company Limited, Dosinga, Bhadrak, Odisha
Work Order No.	4800044480, Date 18.07.2019
Reference No.	Envlab/19/R-6346
Type of Sample	Ambient Air Sample
Sampling Location	AAQMS-1: Colony Area
Sampling Done by	Mr. Manoj Patra
Sampling Duration	24hrs
Monitoring Instrument	RDS (APM 460), FPS (APM 550) Envirotech, CO Analyzer, VOC Sampler

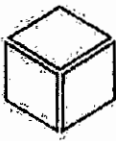
Date	PARAMETERS											
	PM <sub>10</sub> (µg/m <sup>3</sup> )	PM <sub>2.5</sub> (µg/m <sup>3</sup> )	SO <sub>2</sub> (µg/m <sup>3</sup> )	NO <sub>x</sub> (µg/m <sup>3</sup> )	CO (mg/m <sup>3</sup> )	NH <sub>3</sub> (µg/m <sup>3</sup> )	O <sub>3</sub> (µg/m <sup>3</sup> )	Pb (µg/m <sup>3</sup> )	Ni (ng/m <sup>3</sup> )	As (ng/m <sup>3</sup> )	C <sub>6</sub> H <sub>6</sub> (µg/m <sup>3</sup> )	BaP (ng/m <sup>3</sup> )
01.11.2019	61.0	31.0	10.2	13.0	1.15	23.4	5.5	BDL	BDL	BDL	BDL	BDL
05.11.2019	58.0	29.0	10.7	14.7	1.15	22.8	6.2	BDL	BDL	BDL	BDL	BDL
08.11.2019	49.0	25.0	8.3	12.8	1.15	21.2	5.8	BDL	BDL	BDL	BDL	BDL
12.11.2019	53.0	27.0	9.6	13.2	1.15	22.6	6.0	BDL	BDL	BDL	BDL	BDL
15.11.2019	57.0	30.0	10.1	14.4	1.15	23.4	5.7	BDL	BDL	BDL	BDL	BDL
19.11.2019	62.0	33.0	11.3	17.1	1.15	21.7	6.5	BDL	BDL	BDL	BDL	BDL
22.11.2019	58.0	29.0	11.7	16.9	1.15	22.6	6.3	BDL	BDL	BDL	BDL	BDL
26.11.2019	61.0	31.0	10.8	15.3	1.15	24.1	5.8	BDL	BDL	BDL	BDL	BDL
29.11.2019	59.0	30.0	12.4	17.5	1.15	23.7	6.2	BDL	BDL	BDL	BDL	BDL
Monthly Average	57.6	29.4	10.6	15.0	1.15	22.8	6.0	BDL	BDL	BDL	BDL	BDL
CPCB, New Delhi AAQ Standard	100	60	80	80	100	4	400	1	20	6	5	1
TEST METHOD	Gravimetric IS 5182: Part 23	Gravimetric EPA 1998	Improved Wes & Geake Method IS 5182 (Part-2) RA2017	Modified Jacob & Hochheiser Method IS 5182 (Part-6) RA2017	Non Dispersive Infrared Method IS 5182 (Part-10):1999	Indo Phenol Blue Method Air Sampling, 3rd Edn. By James P. Lodge (Method-401)	Chemical Method Air Sampling, 3rd Edn. By James P. Lodge (Method-411)	AAS Method IS 5182(Part-22):2004			Gas Chromatography IS 5182 (Part-11):2006	Solvent Extraction IS 5182 (Part-12):2004

*Manoj Patra*  
Prepared by



*Pooja Mohanty*  
Verified by





# Visiontek Consultancy Services Pvt. Ltd.

(An Enviro Engineering Consulting Cell)



ISO 9001 : 2008

ISO 14001 : 2015

OHSAS 45001: 2018

Ref: Envlab/19/R-6347

Date : 03.12.2019

## AMBIENT AIR QUALITY MONITORING REPORT FOR NOVEMBER-2019

Client Name & Address	M/s The Dhamra Port Company Limited, Dosinga, Bhadrak, Odisha
Work Order No.	4800044480, Date 18.07.2019
Reference No.	Envlab/19/R-6347
Type of Sample	Ambient Air Sample
Sampling Location	AAQMS-2: Near BMH 1
Sampling Done by	Mr. Manoj Patra
Sampling Duration	24hrs
Monitoring Instrument	RDS (APM 460), FPS (APM 550) Envirotech, CO Analyzer, VOC Sampler

Date	PARAMETERS											
	PM <sub>10</sub> (µg/m <sup>3</sup> )	PM <sub>2.5</sub> (µg/m <sup>3</sup> )	SO <sub>2</sub> (µg/m <sup>3</sup> )	NO <sub>x</sub> (µg/m <sup>3</sup> )	CO (mg/m <sup>3</sup> )	NH <sub>3</sub> (µg/m <sup>3</sup> )	O <sub>3</sub> (µg/m <sup>3</sup> )	Pb (µg/m <sup>3</sup> )	Ni (ng/m <sup>3</sup> )	As (ng/m <sup>3</sup> )	C <sub>6</sub> H <sub>6</sub> (µg/m <sup>3</sup> )	PaP (ng/m <sup>3</sup> )
01.11.2019	65.0	34.0	12.4	16.3	1.15	23.4	7.5	BDL	BDL	BDL	BDL	BDL
05.11.2019	61.0	30.0	13.2	16.8	1.15	23.8	7.1	BDL	BDL	BDL	BDL	BDL
08.11.2019	54.0	26.0	11.5	14.2	1.15	22.6	7.8	BDL	BDL	BDL	BDL	BDL
12.11.2019	59.0	31.0	12.7	15.5	1.15	24.2	8.3	BDL	BDL	BDL	BDL	BDL
15.11.2019	67.0	34.0	13.5	17.6	1.15	23.7	8.7	BDL	BDL	BDL	BDL	BDL
19.11.2019	65.0	37.0	13.8	19.1	1.15	24.5	9.4	BDL	BDL	BDL	BDL	BDL
22.11.2019	69.0	39.0	12.9	17.4	1.15	25.1	8.2	BDL	BDL	BDL	BDL	BDL
26.11.2019	64.0	36.0	14.2	18.7	1.15	23.9	7.6	BDL	BDL	BDL	BDL	BDL
29.11.2019	66.0	35.0	13.7	17.6	1.15	24.4	8.1	BDL	BDL	BDL	BDL	BDL
Monthly Average	63.3	33.6	13.1	17.0	1.15	24.0	8.1	BDL	BDL	BDL	BDL	BDL
CPCB, New Delhi AAQ Standard	100	60	80	80	100	4	400	1	20	6	5	1
TEST METHOD	Gravimetric IS 5182: Part 23	Gravimetric EPA 1998	Improved Wes & Geake Method IS 5182 (Part-2) RA2017	Modified Jacob & Hochheiser Method IS 5182 (Part-6) RA2017	Non Dispersive Infrared Method IS 5182 (Part-10):1999	Indo Phenol Blue Method Air Sampling, 3rd Edn. By James P. Lodge (Method-401)	Chemical Method Air Sampling, 3rd Edn. By James P. Lodge (Method-411)	AAS Method IS 5182(Part-22):2004			Gas Chromatography IS 5182 (Part-11):2006	Solvent Extraction IS 5182 (Part-12):2004

Prepared by



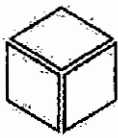
Verified by



Plot No.-M-22&23, Chandaka Industrial Estate, Patia, Bhubaneswar-751024, Dist-Khurda, Odisha Tel.: 7752017905

E-mail : visiontek@vcspl.org, visiontekin@gmail.com, visiontekin@yahoo.co.in, Visit us at: www.vcspl.org

Committed For Better Environment



# Visiontek Consultancy Services Pvt. Ltd.

(An Enviro Engineering Consulting Cell)



ISO 9001 : 2008

ISO 14001: 2015

OHSAS 45001: 2018

Ref: Envlab/19/R-6348

Date : 03.12.2019

## AMBIENT AIR QUALITY MONITORING REPORT FOR NOVEMBER-2019

Client Name & Address	M/s The Dhamra Port Company Limited, Dosinga, Bhadrak, Odisha
Work Order No.	4800044480, Date 18.07.2019
Reference No.	Envlab/19/R-6348
Type of Sample	Ambient Air Sample
Sampling Location	AAQMS-3: Near Jetty
Sampling Done by	Mr. Manoj Patra
Sampling Duration	24hrs
Monitoring Instrument	RDS (APM 460), FPS (APM 550) Envirotech, CO Analyzer, VOC Sampler

Date	PARAMETERS											
	PM <sub>10</sub> (µg/m <sup>3</sup> )	PM <sub>2.5</sub> (µg/m <sup>3</sup> )	SO <sub>2</sub> (µg/m <sup>3</sup> )	NO <sub>x</sub> (µg/m <sup>3</sup> )	CO (mg/m <sup>3</sup> )	NH <sub>3</sub> (µg/m <sup>3</sup> )	O <sub>3</sub> (µg/m <sup>3</sup> )	Pb (µg/m <sup>3</sup> )	Ni (ng/m <sup>3</sup> )	As (ng/m <sup>3</sup> )	C <sub>6</sub> H <sub>6</sub> (µg/m <sup>3</sup> )	BaP (ng/m <sup>3</sup> )
01.11.2019	73.2	38.0	28.3	38.3	2.29	29.3	11.7	0.016	BDL	BDL	BDL	BDL
05.11.2019	75.0	39.5	26.7	36.4	2.86	27.7	11.3	0.014	BDL	BDL	BDL	BDL
08.11.2019	70.0	36.0	23.8	33.4	2.86	26.8	12.4	0.011	BDL	BDL	BDL	BDL
12.11.2019	72.0	40.0	25.5	37.8	2.29	28.6	10.8	0.013	BDL	BDL	BDL	BDL
15.11.2019	76.0	41.6	27.6	39.2	1.72	30.1	11.2	0.015	BDL	BDL	BDL	BDL
19.11.2019	71.0	38.0	28.6	38.7	2.86	29.5	12.3	0.018	BDL	BDL	BDL	BDL
22.11.2019	69.0	35.0	27.5	38.2	2.29	31.3	12.7	0.012	BDL	BDL	BDL	BDL
26.11.2019	71.0	37.0	29.7	40.5	2.86	33.4	11.6	0.017	BDL	BDL	BDL	BDL
29.11.2019	74.0	38.2	28.1	39.2	2.86	30.8	12.5	0.014	BDL	BDL	BDL	BDL
Monthly Average	72.4	38.1	27.3	38.0	2.54	29.7	11.8	0.014	BDL	BDL	BDL	BDL
CPCB, New Delhi AAQ Standard	100	60	80	80	100	4	400	1	20	6	5	1
TEST METHOD	Gravimetric IS 5182: Part 23	Gravimetric EPA 1998	Improved Wes & Genke Method IS 5182 (Part-2) RA2017	Modified Jacob & Hochheiser Method IS 5182 (Part-6) RA2017	Non Dispersive Infrared Method IS 5182 (Part-10):1999	Indo Phenol Blue Method Air Sampling, 3rd Edn. By James P. Lodge (Method-401)	Chemical Method Air Sampling, 3rd Edn. By James P. Lodge (Method-411)	AAS Method IS 5182(Part -22):2004			Gas Chromatography IS 5182 (Part-11):2006	Solvent Extraction IS 5182 (Part-12):2004

Prepared by



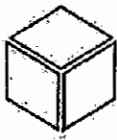
Verified by



Plot No.-M-22&23, Chandaka Industrial Estate, Patia, Bhubaneswar-751024, Dist-Khurda, Odisha Tel.: 7752017905

E-mail : visiontek@vcspl.org, visiontekin@gmail.com, visiontekin@yahoo.co.in, Visit us at: www.vcspl.org

Committed For Better Environment



# Visiontek Consultancy Services Pvt. Ltd.

(An Enviro Engineering Consulting Cell)



ISO 9001 : 2008

ISO 14001: 2015

OHSAS 45001: 2018

Ref: Envlab/19/R-6349

Date : 03.12.2019

## AMBIENT AIR QUALITY MONITORING REPORT FOR NOVEMBER-2019

Client Name & Address	M/s The Dhamra Port Company Limited, Dosinga, Bhadrak, Odisha
Work Order No.	4800044480, Date 18.07.2019
Reference No.	Envlab/19/R-6349
Type of Sample	Ambient Air Sample
Sampling Location	AAQMS-4: Dosinga Village
Sampling Done by	Mr. Manoj Patra
Sampling Duration	24hrs
Monitoring Instrument	RDS (APM 460), FPS (APM 550) Envirotech, CO Analyzer, VOC Sampler

Date	PARAMETERS											
	PM <sub>10</sub> (µg/m <sup>3</sup> )	PM <sub>2.5</sub> (µg/m <sup>3</sup> )	SO <sub>2</sub> (µg/m <sup>3</sup> )	NO <sub>x</sub> (µg/m <sup>3</sup> )	CO (mg/m <sup>3</sup> )	NH <sub>3</sub> (µg/m <sup>3</sup> )	O <sub>3</sub> (µg/m <sup>3</sup> )	Pb (µg/m <sup>3</sup> )	Ni (ng/m <sup>3</sup> )	As (ng/m <sup>3</sup> )	C <sub>6</sub> H <sub>6</sub> (µg/m <sup>3</sup> )	BhP (ng/m <sup>3</sup> )
01.11.2019	64.1	36.0	11.7	16.2	1.15	21.7	6.4	0.009	BDL	BDL	BDL	BDL
05.11.2019	60.0	32.0	12.5	18.3	1.15	22.9	5.8	0.011	BDL	BDL	BDL	BDL
08.11.2019	63.0	31.0	10.1	15.7	1.15	21.2	6.0	BDL	BDL	BDL	BDL	BDL
12.11.2019	65.0	34.0	11.6	19.4	1.15	23.4	6.4	BDL	BDL	BDL	BDL	BDL
15.11.2019	60.0	33.0	13.2	20.7	1.15	22.7	6.9	0.013	BDL	BDL	BDL	BDL
19.11.2019	66.0	35.0	12.8	20.2	1.15	24.2	7.4	0.012	BDL	BDL	BDL	BDL
22.11.2019	61.0	32.0	12.5	19.8	1.15	23.5	7.1	0.015	BDL	BDL	BDL	BDL
26.11.2019	64.0	33.0	13.7	22.4	1.15	21.6	6.6	0.011	BDL	BDL	BDL	BDL
29.11.2019	58.0	30.0	13.1	21.2	1.15	22.2	6.7	0.009	BDL	BDL	BDL	BDL
Monthly Average	62.3	32.9	12.4	19.3	1.15	22.6	6.6	0.009	BDL	BDL	BDL	BDL
CPCB, New Delhi AAQ Standard	100	60	80	80	100	4	400	1	20	6	5	1
TEST METHOD	Gravimetric IS 5182: Part 23	Gravimetric EPA 1998	Improved Wes & Geake Method IS 5182 (Part-2) RA2017	Modified Jacob & Hochheiser Method IS 5182 (Part-6) RA2017	Non Dispersive Infrared Method IS 5182 (Part-10):1999	Indo Phenol Blue Method Air Sampling, 3rd Edn. By James P. Lodge (Method-401)	Chemical Method Air Sampling, 3rd Edn. By James P. Lodge (Method-411)	AAS Method IS 5182(Part-22):2004			Gas Chromatography IS 5182 (Part-11):2006	Solvent Extraction IS 5182 (Part-12):2004

*M. Patra*  
Prepared by



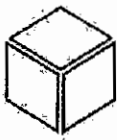
*Puja Mishra*  
Verified by



Plot No.-M-22&23, Chandaka Industrial Estate, Patia, Bhubaneswar-751024, Dist-Khurda, Odisha Tel.: 7752017905

E-mail : visiontek@vcspl.org, visiontekin@gmail.com, visiontekin@yahoo.co.in, Visit us at: www.vcspl.org

Committed For Better Environment



# Visiontek Consultancy Services Pvt. Ltd.

(An Enviro Engineering Consulting Cell)



ISO 9001 : 2008  
ISO 14001 : 2015  
OHSAS 45001 : 2018

Ref: Envlab/19/R-6350

Date : 03.12.2019

## AMBIENT AIR QUALITY MONITORING REPORT FOR NOVEMBER-2019

Client Name & Address	M/s The Dhamra Port Company Limited, Dosinga, Bhadrak, Odisha
Work Order No.	4800044480, Date 18.07.2019
Reference No.	Envlab/19/R-6350
Type of Sample	Ambient Air Sample
Sampling Location	AAQMS-5: Kanak Prasad Village
Sampling Done by	Mr. Manoj Patra
Sampling Duration	24hrs
Monitoring Instrument	RDS (APM 460), FPS (APM 550) Envirotech, CO Analyzer, VOC Sampler

Date	PARAMETERS											
	PM <sub>10</sub> (µg/m <sup>3</sup> )	PM <sub>2.5</sub> (µg/m <sup>3</sup> )	SO <sub>2</sub> (µg/m <sup>3</sup> )	NO <sub>x</sub> (µg/m <sup>3</sup> )	CO (mg/m <sup>3</sup> )	NH <sub>3</sub> (µg/m <sup>3</sup> )	O <sub>3</sub> (µg/m <sup>3</sup> )	Pb (µg/m <sup>3</sup> )	Ni (ng/m <sup>3</sup> )	As (ng/m <sup>3</sup> )	C <sub>6</sub> H <sub>6</sub> (µg/m <sup>3</sup> )	BaP (ng/m <sup>3</sup> )
01.11.2019	58.0	30.0	7.4	13.5	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
05.11.2019	52.0	26.0	8.1	14.2	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
08.11.2019	43.0	22.0	5.9	11.9	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
12.11.2019	57.0	29.0	7.6	13.8	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
15.11.2019	64.0	33.0	8.3	15.4	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
19.11.2019	60.0	31.0	8.5	14.7	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
22.11.2019	65.0	34.0	7.7	14.0	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
26.11.2019	69.0	36.0	8.0	15.2	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
29.11.2019	63.0	32.0	8.4	15.8	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Monthly Average	59.0	30.3	7.8	14.3	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
CPCB, New Delhi AAQ Standard	100	60	80	80	100	4	400	1	20	6	5	1
TEST METHOD	Gravimetric IS 5182: Part 23	Gravimetric EPA 1998	Improved Wes & Genke Method IS 5182 (Part-2) RA2017	Modified Jacob & Hochheiser Method IS 5182 (Part-6) RA2017	Non Dispersive Infrared Method IS 5182 (Part-10):1999	Indo Phenol Blue Method Air Sampling, 3rd Edn. By James P. Lodge (Method-401)	Chemical Method Air Sampling, 3rd Edn. By James P. Lodge (Method-411)	AAS Method IS 5182(Part-22):2004			Gas Chromatography IS 5182 (Part-11):2006	Solvent Extraction IS 5182 (Part-12):2004

*Manoj Patra*

Prepared by

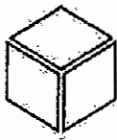


*Pooja Mahapatra*

Verified by







# Visiontek Consultancy Services Pvt. Ltd.

(An Enviro Engineering Consulting Cell)



ISO 9001 : 2008  
ISO 14001 : 2015  
OHSAS 45001 : 2018

Ref: Envlab/19/R-6351

Date : 03.12.2019

## AMBIENT AIR QUALITY MONITORING REPORT FOR NOVEMBER-2019

Client Name & Address	M/s The Dhamra Port Company Limited, Dosinga, Bhadrak, Odisha
Work Order No.	4800044480, Date 18.07.2019
Reference No.	Envlab/19/R-6351
Type of Sample	Ambient Air Sample
Sampling Location	AAQMS-6: Eco Sensitive zone (Near Bhitarkanika)
Sampling Done by	Mr. Manoj Patra
Sampling Duration	24hrs
Monitoring Instrument	RDS (APM 460), FPS (APM 550) Envirotech, CO Analyzer, VOC Sampler

Date	PARAMETERS											
	PM <sub>10</sub> (µg/m <sup>3</sup> )	PM <sub>2.5</sub> (µg/m <sup>3</sup> )	SO <sub>2</sub> (µg/m <sup>3</sup> )	NO <sub>x</sub> (µg/m <sup>3</sup> )	CO (mg/m <sup>3</sup> )	NH <sub>3</sub> (µg/m <sup>3</sup> )	O <sub>3</sub> (µg/m <sup>3</sup> )	Pb (µg/m <sup>3</sup> )	Ni (ng/m <sup>3</sup> )	As (ng/m <sup>3</sup> )	C <sub>6</sub> H <sub>6</sub> (µg/m <sup>3</sup> )	BaP (ng/m <sup>3</sup> )
01.11.2019	44.0	23.0	4.8	10.5	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
05.11.2019	41.0	20.0	5.1	9.7	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
08.11.2019	35.0	18.0	BDL	BDL	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
12.11.2019	40.0	21.0	5.3	11.3	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
15.11.2019	48.0	25.0	4.9	10.8	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
19.11.2019	45.0	23.0	5.2	11.4	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
22.11.2019	50.0	27.0	5.0	10.2	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
26.11.2019	47.0	24.0	4.7	10.6	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
29.11.2019	44.0	22.0	5.5	11.2	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Monthly Average	43.8	22.6	5.1	10.7	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
CPCB, New Delhi AAQ Standard	100	60	80	80	100	4	400	1	20	6	5	1
TEST METHOD	Gravimetric IS 5182: Part 23	Gravimetric EPA 1998	Improved Wes & Geake Method IS 5182 (Part-2) RA2017	Modified Jacob & Hochheiser Method IS 5182 (Part-6) RA2017	Non Dispersive Infrared Method IS 5182 (Part-10):1999	Indo Phenol Blue Method Air Sampling, 3rd Edn. By James P. Lodge (Method-401)	Chemical Method Air Sampling, 3rd Edn. By James P. Lodge (Method-411)	AAS Method IS 5182(Part -22):2004			Gas Chromatography IS 5182 (Part-11):2006	Solvent Extraction IS 5182 (Part-12):2004

Manoj Patra

Prepared by



Pooja Mishra

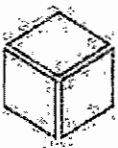
Verified by



Plot No.-M-22&23, Chandaka Industrial Estate, Patia, Bhubaneswar-751024, Dist-Khurda, Odisha Tel.: 7752017905

E-mail : visiontek@vcspl.org, visiontekin@gmail.com, visiontekin@yahoo.co.in, Visit us at: www.vcspl.org

Committed For Better Environment



# Visiontek Consultancy Services Pvt. Ltd.

(An Enviro Engineering Consulting Cell)



ISO 9001:2008

ISO 14001:2015  
OHSAS 18001:2018

Ref: Envlab/19/R-6352

Date: 03.12.2019

## NOISE QUALITY ANALYSIS REPORT FOR NOVEMBER-2019

Client Name & Address	M/s The Dhamra Port Company Limited, Dosinga, Bhadrak, Odisha
Work Order No.	4800044480, Date 18.07.2019
Analysis No.	Envlab/19/R-6352
Type of Sample	Noise Sample
Sampling Done by	Mr. Samyashree Nayak

Sl. No.	Date of Monitoring	Location	NL Day Time dB(A)			NL Night Time dB(A)		
			MAX	MIN	AVG	MAX	MIN	AVG
1	13.11.2019	Near Jetty (I)	72.4	69.0	70.7	67.0	64.4	65.7
2	16.11.2019	Near BMH (I)	65.0	53.1	59.1	54.0	48.0	51.0
3	02.11.2019	Near Colony (R)	53.1	51.0	52.1	43.7	41.0	42.4
4	06.11.2019	Dosinga Village (R)	54.1	52.4	53.3	43.2	40.1	41.7
5	20.11.2019	Kanak Prasad Village (R)	53.8	51.0	52.4	44.0	42.4	43.2
6	23.11.2019	Eco Sensitive Zone	48.2	42.5	45.4	38.3	31.0	34.9

\*NL- Noise Level, I- Industrial, R- Residential

### National Standard of Noise Level

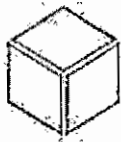
Area Code	Category of Area/Zone	Permissible Limit in dB(A)	
		Day Time	Night Time
A	Industrial Area	75	70
B	Commercial Area	65	55
C	Residential Area	55	45
D	Silence Zone	50	40



Plot No. M-22&23, Choudaka Industrial Estate, Patia, Bhubaneswar-751024, Dist- Khurda, Odisha. Tel: 7752017905

E-mail: visiontek@vcspl.org; visiontek.in@gmail.com; visiontek.in@yahoo.co.in. Visit us at: www.vcspl.org

Committed For Better Environment



# Visiontek Consultancy Services Pvt. Ltd.

(An Enviro Engineering Consulting Cell)



ISO 9001 : 2008

ISO 14001 : 2004

OHSAS 18001 : 2007

Ref: Envlab/19/R-6353

Date: 03.12.2019

## WATER QUALITY REPORT NOVEMBER-2019

Client Name & Address	M/s The Dhamra Port Company Limited, Dosinga, Bhadrak, Odisha
Work Order No.	4800044480, Date 18.07.2019
Reference No.	Envlab/19/R-6353
Type of Sample	Waste Water Sample
Sampling Location	WW-1: 140 KLD STP Inlet; WW-2: 140 KLD STP Outlet
Date of Sampling	04.11.2019
Date of Analysis	05.11.2019 to 10.11.2019
Sampling Done by	Mr. Samyashree Nayak

Sl. No.	Name of the Parameters	Unit	Testing Method	Standard as per Schedule-VI of EP Rules, 1986 Amnd. 2015 (Discharge to Inland Surface Water).	Analysis Result	
					WW-1	WW-2
1	pH	-	APHA 4500H <sup>+</sup> B	6.0-9.0	7.12	7.54
2	Color	Hazen	APHA 2120 B,C	-	Blackish	CL
3	Odour	-	APHA 2150 B	-	Pungent Smell	U/O
4	Appearance	-	APHA 2110	-	Turbid	Clear
5	Total Suspended Solids	mg/l	APHA 2540 D	100	96	11
6	Biochemical Oxygen Demand as BOD (3 days at 27°C)	mg/l	APHA 5210 B	30	79	7
7	Chemical Oxygen Demand (COD)	mg/l	APHA 5220 C	250	248	32
8	Oil & Grease	mg/l	APHA 5520 B	10	16.4	2.8
9	Ammonical Nitrogen as NH <sub>3</sub> -N	mg/l	APHA 4500 NH <sub>3</sub> F	50	14.0	7.8
10	Total Nitrogen	mg/l	Calculation	-	17.46	10.97
11	Faecal Coliform	MPN/100ml	APHA 9221 F	-	280	63



Plot No. M-22&23, Chandaka Industrial Estate, Patia, Bhubaneswar-751024, Dist-Khurda, Odisha Tel.: 7752017905

E-mail : visiontek@vcspl.org, visiontek@gmail.com, visiontek@yahoo.co.in, Visit us at: www.vcspl.org

Committed For Better Environment



Ref: Envlab/19/R-6354

Date: 03.12.2019

## WATER QUALITY REPORT NOVEMBER-2019

Client Name & Address	M/s The Dhanira Port Company Limited, Dosinga, Bhadrak, Odisha
Work Order No.	4800044480, Date 18.07.2019
Reference No.	Envlab/19/R-6354
Type of Sample	Waste Water Sample
Sampling Location	WW-1: 140 KLD STP Inlet; WW-2: 140.KLD STP Outlet.
Date of Sampling	18.11.2019
Date of Analysis	19.11.2019 to 23.11.2019
Sampling Done by	Mr. Samyashree Nayak

Sl. No.	Name of the Parameters	Unit	Testing Method	Standard as per Schedule-VI of EP Rules, 1986 Amnd. 2015 (Discharge to Inland Surface Water)	Analysis Result	
					WW-1	WW-2
1	pH	-	APHA 4500H <sub>2</sub> B	6.0 - 9.0	7.18	7.47
2	Color	Hazen	APHA 2120 B,C	--	Blackish	CL
3	Odour	--	APHA 2150 B	--	Pungent Smell	U/O
4	Appearance	-	APHA 2110	-	Turbid	Clear
5	Total Suspended Solids	mg/l	APHA 2540 D	100	193	15
6	Biochemical Oxygen Demand as BOD (3 days at 27°C)	mg/l	APHA 5210 B	30	104	9
7	Chemical Oxygen Demand (COD)	mg/l	APHA 5220 C	250	292	36
8	Oil & Grease	mg/l	APHA 5520 B	10	19.6	3.2
9	Ammonical Nitrogen as NH <sub>3</sub> -N	mg/l	APHA 4500 NH <sub>3</sub> F	50	18.4	12.4
10	Total Nitrogen	mg/l	Calculation	--	23.3	15.5
11	Faecal Coliform	MPN/100ml	APHA 9221 F	--	430	79





Ref: Envlab/19/R-6355

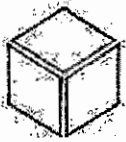
Date: 03.12.2019

## WATER QUALITY REPORT NOVEMBER-2019

Client Name & Address	M/s The Dhamra Port Company Limited, Dosinga, Bhadrak, Odisha
Work Order No.	4800044480, Date 18.07.2019
Reference No.	Envlab/19/R-6355
Type of Sample	Waste Water Sample
Sampling Location	WW-1: 15 KLD STP Inlet; WW-2: 15 KLD STP Outlet
Date of Sampling	04.11.2019
Date of Analysis	05.11.2019 to 10.11.2019
Sampling Done by	Mr. Samyashree Nayak

SL. No.	Name of the Parameters	Unit	Testing Method	Standard as per Schedule-VI of EP Rules, 1986 Amnd. 2015 (Discharge to Inland Surface Water)	Analysis Result	
					WW-1	WW-2
1	pH	-	APHA 4500H <sup>B</sup>	6.0 - 9.0	7.04	7.43
2	Color	Hazen	APHA 2120.B,C	-	Blackish	CL
3	Odour	=	APHA 2150.B	--	Pungent Smell	U/O
4	Appearance	--	APHA 2110	--	Turbid	Clear
5	Total Suspended Solids	mg/l	APHA 2540.D	100	73	8
6	Biochemical Oxygen Demand as BOD (3 days at 27°C)	mg/l	APHA 5210.B	30	37	6.3
7	Chemical Oxygen Demand (COD)	mg/l	APHA 5220.C	250	136	24
8	Oil & Grease	mg/l	APHA 5520.B	10	5.6	ND
9	Ammonical Nitrogen as NH <sub>4</sub> -N	mg/l	APHA 4500.NH <sub>3</sub> F	50	16.8	3.42
10	Total Nitrogen	mg/l	Calculation	-	19.05	5.1
11	Faecal Coliform	MPN/100ml	APHA 9221.F	--	150	40





# Visiontek Consultancy Services Pvt. Ltd.

(An Enviro. Engineering Consulting Cell)



ISO 9001:2008

ISO 14001:2004

OHSA: (800) : 2007

Ref: Envlab/19/R-6356

Date: 03.12.2019

## WATER QUALITY REPORT NOVEMBER-2019

Client Name & Address	M/s The Dhamra Port Company Limited, Dosinga, Bhadrak, Odisha
Work Order No.	4800044480, Date: 18.07.2019
Reference No.	Envlab/19/R-6356
Type of Sample	Waste Water Sample
Sampling Location	WW-1: 15 KLD STP Inlet; WW-2: 15 KLD STP Outlet
Date of Sampling	18.11.2019
Date of Analysis	19.11.2019 to 23.11.2019
Sampling Done by	Mr. Samyashree Nayak

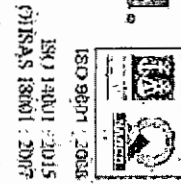
Sl. No.	Name of the Parameters	Unit	Testing Method	Standard as per Schedule-VI of EP Rules, 1986 Amnd. 2015 (Discharge to Inland Surface Water)	Analysis Result	
					WW-1	WW-2
1	pH	-	APHA 4500H <sub>2</sub> B	6.0-9.0	7.1	7.39
2	Color	Hazen	APHA 2120 B/C	-	Blackish	CL
3	Odour	-	APHA 2150 B	-	Pungent Smell	U/O
4	Appearance	-	APHA 2110	-	Turbid	Clear
5	Total Suspended Solids	mg/l	APHA 2540 D	100	157	10
6	Biochemical Oxygen Demand as BOD (3 days at 27°C)	mg/l	APHA 5210 B	30	53	7
7	Chemical Oxygen Demand (COD)	mg/l	APHA 5220 C	250	176	32
8	Oil & Grease	mg/l	APHA 5520 B	10	7.6	ND
9	Ammonical Nitrogen as NH <sub>3</sub> -N	mg/l	APHA 4500 NH <sub>3</sub> F	50	15.2	2.88
10	Total Nitrogen	mg/l	Calculation	-	17.42	4.1
11	Faecal Coliform	MPN/100ml	APHA 9221 F	-	350	38



Plot No. M-22&23, Chandaka Industrial Estate, Patia, Bhubaneswar-751024, Dist-Khurda, Odisha. Tel.: 7752017905

E-mail: visiontek@vcspl.org, visiontek.in@gmail.com, visiontek.in@yahoo.co.in, Visit us at: www.vcspl.org

Committed For Better Environment



Ref: Envlab/1-R-7069

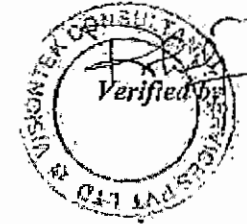
Date: 04.01.2020

## AMBIENT AIR QUALITY MONITORING REPORT FOR DECEMBER-2019

Client Name & Address	M/s The Dhamra Port Company Limited, Dosinga, Bhadrak, Odisha
Work Order No.	4800044480, Date 18.07.2019
Reference No.	Envlab/19/R-7069
Type of Sample	Ambient Air Sample
Sampling Location	AAQMS-1: Colony Area
Sampling Done by	Mr. Manoj Patra
Sampling Duration	24hrs
Monitoring Instrument	RDS (APM 460), FPS (APM 550), Envirotech, CO Analyzer, VOC Sampler

Date	PARAMETERS											
	PM <sub>10</sub> (µg/m <sup>3</sup> )	PM <sub>2.5</sub> (µg/m <sup>3</sup> )	SO <sub>2</sub> (µg/m <sup>3</sup> )	NO <sub>x</sub> (µg/m <sup>3</sup> )	CO (mg/m <sup>3</sup> )	NH <sub>3</sub> (µg/m <sup>3</sup> )	O <sub>3</sub> (µg/m <sup>3</sup> )	Pb (µg/m <sup>3</sup> )	Ni (ng/m <sup>3</sup> )	As (ng/m <sup>3</sup> )	Benzene (µg/m <sup>3</sup> )	BaP (ng/m <sup>3</sup> )
03.12.2019	63.0	32.4	11.4	15.2	1.15	22.7	6.2	BDL	BDL	BDL	BDL	BDL
06.12.2019	55.0	28.7	11.1	15.6	1.15	22.3	5.9	BDL	BDL	BDL	BDL	BDL
10.12.2019	68.0	34.8	10.5	13.8	1.15	23.6	6.6	BDL	BDL	BDL	BDL	BDL
13.12.2019	59.0	30.3	10.9	14.7	1.15	24.2	7.2	BDL	BDL	BDL	BDL	BDL
17.12.2019	64.0	33.2	11.5	16.3	1.15	23.5	6.8	BDL	BDL	BDL	BDL	BDL
20.12.2019	61.0	31.6	10.6	15.8	1.15	22.8	6.7	BDL	BDL	BDL	BDL	BDL
24.12.2019	66.0	34.5	11.3	17.1	1.15	24.0	7.0	BDL	BDL	BDL	BDL	BDL
27.12.2019	57.0	29.3	12.7	17.8	1.15	23.3	7.3	BDL	BDL	BDL	BDL	BDL
Monthly Average	61.6	31.9	11.3	15.8	1.15	23.3	6.7	BDL	BDL	BDL	BDL	BDL
NAAQ Standard	100	60	80	80	4	400	100	1	20	6	5	1
TEST METHOD	Gravimetric IS 5182 Part 23	Gravimetric EPA 1998	Improved West & Genke Method IS 5182 (Part-2) RA2017	Modified Jacob & Hochheiser Method IS 5182 (Part-6) RA2017	Non Dispersive Infrared Method IS 5182 (Part-10):1999	Indo Phenol Blue Method Air Sampling 3rd Edn. By James P. Lodge (Method-401)	Chemical Method Air Sampling 3rd Edn. By James P. Lodge (Method-411)	AAS Method IS 5182 (Part-22):2004			Gas Chromatography IS 5182 (Part-11):2006	Solvent Extraction IS 5182 (Part-12):2004

N.B. \*NAAQ- National Ambient Air Quality Standard as per 18<sup>th</sup> Nov. 2009 Gatt. Notification  
 BDL Values: SO<sub>2</sub> < 4 µg/m<sup>3</sup>, NO<sub>x</sub> < 9 µg/m<sup>3</sup>, O<sub>3</sub> < 4 µg/m<sup>3</sup>, NH<sub>3</sub> < 20 µg/m<sup>3</sup>, Ni < 0.01 ng/m<sup>3</sup>, As < 0.001 ng/m<sup>3</sup>, C<sub>6</sub>H<sub>6</sub> < 0.001 µg/m<sup>3</sup>, BaP < 0.002 ng/m<sup>3</sup>, Pb < 0.001 µg/m<sup>3</sup>, CO < 0.1 mg/m<sup>3</sup>



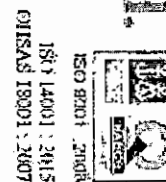
Plot No. M-22&23, Chandika Industrial Estate, Patia, Bhubaneswar-751024, Dist: Khurda, Odisha Tel: 7752017905  
 E-mail: visiontek@vcspl.org, visiontech@vcspl.com, visiontech@gmail.com, visiontek@gmail.com  
 \*Authorized for Kendriya Environment





# Visiontek Consultancy Services Pvt. Ltd.

(An Enviro Engineering Consulting Cell)



Ref: Enviab/1-R-7070

Date: 04/01/2020

## AMBIENT AIR QUALITY MONITORING REPORT FOR DECEMBER-2019

Client Name & Address	M/s The Dhamra-Port Company Limited, Dosinga, Bhadrak, Odisha
Work Order No.	4800044480, Date 18.07.2019
Reference No.	Enviab/19/R-7070
Type of Sample	Ambient Air Sample
Sampling Location	AAQMS-2: Near BMH I
Sampling Done by	Mr. Manoj Patra
Sampling Duration	24hrs
Monitoring Instrument	RDS (APM 460), FPS (APM 550) Envirotech, CO Analyzer, VOC Sampler

Date	PARAMETERS												
	PM <sub>10</sub> (µg/m <sup>3</sup> )	PM <sub>2.5</sub> (µg/m <sup>3</sup> )	SO <sub>2</sub> (µg/m <sup>3</sup> )	NO <sub>x</sub> (µg/m <sup>3</sup> )	CO (mg/m <sup>3</sup> )	NH <sub>3</sub> (µg/m <sup>3</sup> )	O <sub>3</sub> (µg/m <sup>3</sup> )	Pb (µg/m <sup>3</sup> )	Ni (ng/m <sup>3</sup> )	As (ng/m <sup>3</sup> )	Benzene (µg/m <sup>3</sup> )	BaP (ng/m <sup>3</sup> )	
03.12.2019	73.0	38.2	13.6	17.1	1.15	22.9	8.4	BDL	BDL	BDL	BDL	BDL	
06.12.2019	67.0	35.0	12.9	16.6	1.15	23.1	7.9	BDL	BDL	BDL	BDL	BDL	
10.12.2019	71.0	36.7	12.4	16.2	1.15	23.7	8.1	BDL	BDL	BDL	BDL	BDL	
13.12.2019	76.0	39.4	13.2	17.5	1.15	24.5	7.6	BDL	BDL	BDL	BDL	BDL	
17.12.2019	72.0	36.8	14.5	18.4	1.15	22.8	8.3	BDL	BDL	BDL	BDL	BDL	
20.12.2019	78.0	39.4	12.8	17.0	1.15	23.6	8.8	BDL	BDL	BDL	BDL	BDL	
24.12.2019	81.0	42.0	14.3	19.2	1.15	22.7	8.5	BDL	BDL	BDL	BDL	BDL	
27.12.2019	77.0	40.4	15.1	18.8	1.15	24.2	9.2	BDL	BDL	BDL	BDL	BDL	
Monthly Average	74.4	38.5	13.6	17.6	1.15	23.4	8.4	BDL	BDL	BDL	BDL	BDL	
NAAQ Standard	100	60	80	80	4	400	100	1	20	6	5	1	
TEST METHOD	Gravimetric IS 5182: Part 23	Gravimetric EPA 1998	Improved West & Greco Method IS 5182 (Part-2) RA2017	Modified Jacob & Hoelbeiser Method IS 5182 (Part-6) RA2017	Non Dispersive Infrared Method IS 5182 (Part-10):1999	Indo Phenol Blue Method Air Sampling, 3rd Edn. By James P. Lodge (Method-101)	Chemical Method Air Sampling, 3rd Edn. By James P. Lodge (Method-411)	AAS Method IS 5182 (Part-22):2004			Gas Chromatog- raphy IS 5182 (Part- 11):2006	Solvent Extraction IS 5182 (Part- 12):2004	

N.B: \*NAAQ- National Ambient Air Quality Standard as per 18<sup>th</sup> Nov. 2009 Gatt. Notification  
 BDL Values: SO<sub>2</sub> < 4 µg/m<sup>3</sup>, NO<sub>x</sub> < 9 µg/m<sup>3</sup>, O<sub>3</sub> < 4 µg/m<sup>3</sup>, NH<sub>3</sub> < 20 µg/m<sup>3</sup>, Ni < 0.01 ng/m<sup>3</sup>, As < 0.001 ng/m<sup>3</sup>, C<sub>6</sub>H<sub>6</sub> < 0.001 µg/m<sup>3</sup>, BaP < 0.002 ng/m<sup>3</sup>, Pb < 0.001 µg/m<sup>3</sup>, CO < 0.1 mg/m<sup>3</sup>



Plot No. M-22&23, Chandaka Industrial Estate, Patna, Bhubaneswar-751024, Dist.-Khurda, Odisha Tel: 7752017905  
 E-mail: visiontek@vcspl.org, visiontek@gmail.com, visiontek@yahoo.co.in Visit us at: www.vcspl.org  
 (Approved For Project Environment)



## AMBIENT AIR QUALITY MONITORING REPORT FOR DECEMBER-2019

Ref: Envlab1/R-7071

Date: 04.01.2020

Client Name & Address	M/s The Dhamra Port Company Limited, Dosinga, Bhadrak, Odisha
Work Order No.	480084480, Date 18.07.2019
Reference No.	Envlab/19/R-7071
Type of Sample	Ambient Air Sample
Sampling Location	AAQMS-3: Near Jetty
Sampling Done by	Mr. Manej Patra
Sampling Duration	24hrs
Monitoring Instrument	RDS (APM 460), FPS (APM 550) Envirotech; CO Analyzer, VOC Sampler

Date	PARAMETERS											
	PM <sub>10</sub> ( $\mu\text{g}/\text{m}^3$ )	PM <sub>2.5</sub> ( $\mu\text{g}/\text{m}^3$ )	SO <sub>2</sub> ( $\mu\text{g}/\text{m}^3$ )	NO <sub>x</sub> ( $\mu\text{g}/\text{m}^3$ )	CO ( $\text{mg}/\text{m}^3$ )	NH <sub>3</sub> ( $\mu\text{g}/\text{m}^3$ )	O <sub>3</sub> ( $\mu\text{g}/\text{m}^3$ )	Pb ( $\mu\text{g}/\text{m}^3$ )	Ni ( $\text{ng}/\text{m}^3$ )	As ( $\text{ng}/\text{m}^3$ )	Benzene ( $\mu\text{g}/\text{m}^3$ )	BaP ( $\text{ng}/\text{m}^3$ )
03.12.2019	82.5	43.1	30.1	41.3	2.86	25.8	12.6	0.022	BDL	BDL	BDL	BDL
06.12.2019	84.0	44.0	27.8	39.2	2.29	28.1	11.8	0.019	BDL	BDL	BDL	BDL
10.12.2019	81.2	41.8	28.4	40.4	2.86	27.5	11.3	0.023	BDL	BDL	BDL	BDL
13.12.2019	85.0	44.3	26.6	38.6	2.29	28.3	11.6	0.02	BDL	BDL	BDL	BDL
17.12.2019	83.1	42.1	29.2	38.0	2.86	29.6	10.7	0.018	BDL	BDL	BDL	BDL
20.12.2019	86.2	45.0	27.7	36.6	2.29	27.4	12.0	0.016	BDL	BDL	BDL	BDL
24.12.2019	82.0	42.4	27.1	37.4	1.72	29.6	12.4	0.021	BDL	BDL	BDL	BDL
27.12.2019	81.6	41.8	28.5	39.7	2.86	31.7	11.8	0.018	BDL	BDL	BDL	BDL
Monthly Average	83.2	43.1	28.2	38.9	2.50	28.5	11.8	0.020	BDL	BDL	BDL	BDL
NAAQ Standard	100	60	80	80	4	400	100	1	20	6	5	1
TEST METHOD	Gravimetric IS 5182: Part 23	Gravimetric EPA 1598	Improved West & Gaeke Method IS 5182 (Part-2) RA2017	Modified Jacob & Hochheiser Method IS 5182 (Part-6) RA2017	Non Dispersive Infrared Method IS 5182 (Part-10) 1999	Indo Phenol Blue Method Air Sampling 3rd Edn. By James P. Lodge (Method-401)	Chemical Method Air Sampling 3rd Edn. By James P. Lodge (Method-311)	AAS Method IS 5182 (Part-22) 2004			Gas Chromatography IS 5182 (Part-11) 2006	Solvent Extraction IS 5182 (Part-12) 2004

N.B. \*NAAQ- National Ambient Air Quality Standard as per 18<sup>th</sup> Nov. 2009 Gait. Notification  
 BDL Values: SO<sub>2</sub> < 4  $\mu\text{g}/\text{m}^3$ , NO<sub>x</sub> < 9  $\mu\text{g}/\text{m}^3$ , O<sub>3</sub> < 4  $\mu\text{g}/\text{m}^3$ , NH<sub>3</sub> < 20  $\mu\text{g}/\text{m}^3$ , Ni < 0.01  $\text{ng}/\text{m}^3$ , As < 0.001  $\text{ng}/\text{m}^3$ , C<sub>6</sub>H<sub>6</sub> < 0.001  $\mu\text{g}/\text{m}^3$ , BaP < 0.002  $\text{ng}/\text{m}^3$ , Pb < 0.001  $\mu\text{g}/\text{m}^3$ , CO < 0.1  $\text{mg}/\text{m}^3$





## AMBIENT AIR QUALITY MONITORING REPORT FOR DECEMBER-2019

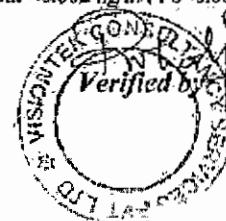
<b>Client Name &amp; Address</b>	M/s The Dhamra Port Company Limited, Dosinga, Bhadrak, Odisha
<b>Work Order No.</b>	4800044480, Date 18.07.2019
<b>Reference No.</b>	Envlab/19/R-7072
<b>Type of Sample</b>	Ambient Air Sample
<b>Sampling Location</b>	AAQMS-4: Dosinga Village
<b>Sampling Done by</b>	Mr. Manoj Patra
<b>Sampling Duration</b>	24hrs
<b>Monitoring Instrument</b>	RDS (APM 460), FPS (APM 550) Envirotech, CO Analyzer, VOC Sampler

Ref: Envlab/1-R-7072

Date	PARAMETERS											
	PM <sub>10</sub> ( $\mu\text{g}/\text{m}^3$ )	PM <sub>2.5</sub> ( $\mu\text{g}/\text{m}^3$ )	SO <sub>2</sub> ( $\mu\text{g}/\text{m}^3$ )	NO <sub>x</sub> ( $\mu\text{g}/\text{m}^3$ )	CO ( $\text{mg}/\text{m}^3$ )	NH <sub>3</sub> ( $\mu\text{g}/\text{m}^3$ )	O <sub>3</sub> ( $\mu\text{g}/\text{m}^3$ )	Pb ( $\mu\text{g}/\text{m}^3$ )	Ni ( $\text{ng}/\text{m}^3$ )	As ( $\text{ng}/\text{m}^3$ )	Benzene ( $\mu\text{g}/\text{m}^3$ )	BaP ( $\text{ng}/\text{m}^3$ )
03.12.2019	68.6	35.1	14.2	19.7	1.15	22.4	5.9	0.013	BDL	BDL	BDL	BDL
06.12.2019	67.9	35.7	15.4	22.6	1.15	21.8	6.1	0.009	BDL	BDL	BDL	BDL
10.12.2019	70.0	36.0	13.2	18.8	1.15	23.0	6.3	0.012	BDL	BDL	BDL	BDL
13.12.2019	71.0	36.4	14.3	20.7	1.15	22.5	5.4	0.015	BDL	BDL	BDL	BDL
17.12.2019	67.4	34.0	15.5	21.3	1.15	22.8	6.6	0.011	BDL	BDL	BDL	BDL
20.12.2019	66.0	33.6	14.0	17.6	1.15	23.4	7.2	0.014	BDL	BDL	BDL	BDL
24.12.2019	68.1	34.0	14.7	18.4	1.15	25.1	6.9	0.013	BDL	BDL	BDL	BDL
27.12.2019	67.2	35.0	15.1	21.8	1.15	23.6	7.0	0.008	BDL	BDL	BDL	BDL
Monthly Average	68.3	35.0	14.6	20.1	1.15	23.1	6.4	0.012	BDL	BDL	BDL	BDL
NAAQ Standard	100	60	80	80	4	400	100	1	20	6	5	1
TEST METHOD	Gravimetric IS 5182: Part-23	Gravimetric EPA-1998	Improved West-Gaeke Method IS 5182 (Part-2) RA2017	Modified Jacob & Hochheiser Method IS 5182 (Part-6) RA2017	Non-Dispersive Infrared Method IS 5182 (Part-10):1999	Indo Phenol Dibe Method Air Sampling, 3rd Edn. By James P. Lodge (Method-401)	Chemical Method Air Sampling, 3rd Edn. By James P. Lodge (Method-411)	AAS Method IS 5182 (Part-22):2004		Gas Chromatography IS 5182 (Part-11):2006	Solvent-Extraction IS 5182 (Part-12):2004	

Date: 04.01.2020

N.B- \*NAAQ- National Ambient Air Quality Standard as per 18<sup>th</sup> Nov. 2009 Gatt. Notification  
BDL Values: SO<sub>2</sub><4  $\mu\text{g}/\text{m}^3$ , NO<sub>x</sub><9  $\mu\text{g}/\text{m}^3$ , O<sub>3</sub><4  $\mu\text{g}/\text{m}^3$ , NH<sub>3</sub><20  $\mu\text{g}/\text{m}^3$ , Ni<0.01  $\text{ng}/\text{m}^3$ , As < 0.001  $\text{ng}/\text{m}^3$ , C<sub>6</sub>H<sub>6</sub><0.001  $\mu\text{g}/\text{m}^3$ , BaP<0.002  $\text{ng}/\text{m}^3$ , Pb<0.001  $\mu\text{g}/\text{m}^3$ , CO<0.1  $\text{mg}/\text{m}^3$





## AMBIENT AIR QUALITY MONITORING REPORT FOR DECEMBER-2019

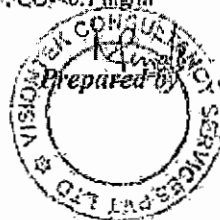
Ref: Envlab/1/R-7073

Date: 04.01.2020

Client Name & Address	M/s The Dhamra Port Company Limited, Dosinga, Bhadrak, Odisha
Work Order No.	4800044480, Date 18.07.2019
Reference No.	Envlab/19/R-7073
Type of Sample	Ambient Air Sample
Sampling Location	AAQMS-5: Kanak Prasad Village
Sampling Done by	Mr. Manoj Patra
Sampling Duration	24hrs
Monitoring Instrument	RDS (APM 460), FFS (APM 550) Envirotech, CO Analyzer, VOC Sampler

Date	PARAMETERS											
	PM <sub>10</sub> (µg/m <sup>3</sup> )	PM <sub>2.5</sub> (µg/m <sup>3</sup> )	SO <sub>2</sub> (µg/m <sup>3</sup> )	NO <sub>x</sub> (µg/m <sup>3</sup> )	CO (mg/m <sup>3</sup> )	NH <sub>3</sub> (µg/m <sup>3</sup> )	O <sub>3</sub> (µg/m <sup>3</sup> )	Pb (µg/m <sup>3</sup> )	Ni (ng/m <sup>3</sup> )	As (ng/m <sup>3</sup> )	Benzene (µg/m <sup>3</sup> )	BaP (ng/m <sup>3</sup> )
03.12.2019	66.0	34.1	8.7	14.7	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
06.12.2019	60.0	31.0	9.3	16.3	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
10.12.2019	57.0	29.5	9.0	15.8	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
13.12.2019	64.0	33.7	8.5	17.1	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
17.12.2019	69.0	35.2	7.9	15.2	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
20.12.2019	61.0	32.4	8.8	16.6	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
24.12.2019	68.0	35.2	8.5	16.3	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
27.12.2019	73.0	38.2	9.4	17.5	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Monthly Average	64.8	33.7	8.8	16.2	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
NAAQ Standard	100	60	80	80	4	400	100	1	20	6	5	1
TEST METHOD	Gravimetric IS 5182: Part-23	Gravimetric EPA 1998	Improved West & Gaeke Method IS 5182: (Part-2) RA2017	Modified Jacob & Hochheiser Method IS 5182: (Part-6) RA2017	Non Dispersive Infrared Method IS 5182 (Part-10):1999	Indo Phenol Blue Method, Air Sampling, 3rd Edn. By James P. Lodge (Method-401)	Chemical Method, Air Sampling, 3rd Edn. By James P. Lodge (Method-411)	AAS Method IS 5182(Part-22):2004			Gas Chromatography IS 5182 (Part-11):2006	Solvent Extraction IS 5182 (Part-12):2004

N.B- \*NAAQ- National Ambient Air Quality Standard as per 18<sup>th</sup> Nov. 2009 Gatt. Notification  
BDL Values: SO<sub>2</sub>< 4 µg/m<sup>3</sup>, NO<sub>x</sub>< 9 µg/m<sup>3</sup>, O<sub>3</sub>< 4 µg/m<sup>3</sup>, NH<sub>3</sub>< 20 µg/m<sup>3</sup>, Ni<0.01 ng/m<sup>3</sup>, As < 0.001 ng/m<sup>3</sup>, C<sub>6</sub>H<sub>6</sub><0.001 µg/m<sup>3</sup>, BaP<0.002 ng/m<sup>3</sup>, Pb<0.001 µg/m<sup>3</sup>, CO<0.1 mg/m<sup>3</sup>





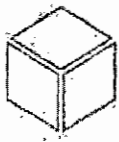
## AMBIENT AIR QUALITY MONITORING REPORT FOR DECEMBER-2019

Client Name & Address	M/s The Dhamra Port Company Limited, Dosinga, Bhadrak, Odisha
Work Order No.	4800044480, Date:18.07.2019
Reference No.	Envlab/19/R-7074
Type of Sample	Ambient Air Sample
Sampling Location	AAQMS-6: Eco Sensitive zone (Near Bhitarkanika)
Sampling Done by	Mr. Manoj Patra
Sampling Duration	24hrs
Monitoring Instrument	RDS (APM 460), FPS (APM 550) Envirotech, CO Analyzer, VOC Sampler

Date	PARAMETERS											
	PM <sub>10</sub> (µg/m <sup>3</sup> )	PM <sub>2.5</sub> (µg/m <sup>3</sup> )	SO <sub>2</sub> (µg/m <sup>3</sup> )	NO <sub>x</sub> (µg/m <sup>3</sup> )	CO (µg/m <sup>3</sup> )	NH <sub>3</sub> (µg/m <sup>3</sup> )	O <sub>3</sub> (µg/m <sup>3</sup> )	Pb (µg/m <sup>3</sup> )	As (µg/m <sup>3</sup> )	Ni (µg/m <sup>3</sup> )	Benzene (µg/m <sup>3</sup> )	BaP (ng/m <sup>3</sup> )
03.12.2019	49.0	24.8	5.8	12.2	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
06.12.2019	45.0	23.6	5.3	11.6	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
10.12.2019	51.0	26.3	5.0	9.8	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
13.12.2019	48.0	23.7	5.6	11.4	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
17.12.2019	53.0	26.4	6.2	13.2	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
20.12.2019	50.0	25.8	6.0	12.7	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
24.12.2019	47.0	24.3	5.7	11.2	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
27.12.2019	54.0	28.2	5.9	11.8	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Monthly Average	49.6	25.4	5.7	11.7	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
NAAQ Standard	100	60	80	80	4	400	100	1	6	20	5	1
TEST METHOD	Gravimetric IS 5182 Part 23	Gravimetric EPA 1998	Improved West & Geake Method IS 5182 (Part-2) RA2017	Modified Jacob & Hochheiser Method IS 5182 (Part-6) RA2017	Non Dispersive Infrared Method IS 5182 (Part-10) 1999	Indo Phenol Blue Method Air Sampling 3rd Edn. By James P. Lodge (Method-401)	Chemical Method Air Sampling 3rd Edn. By James P. Lodge (Method-411)	AAS Method IS 5182 (Part-22) 2004			Gas Chromatography IS 5182 (Part-11) 2006	Solvent Extraction IS 5182 (Part-12) 2004

N.B. \*NAAQ- National Ambient Air Quality Standard as per 18<sup>th</sup> Nov. 2009 Gait. Notification  
 BDL Values: SO<sub>2</sub><4 µg/m<sup>3</sup>, NO<sub>x</sub><9 µg/m<sup>3</sup>, O<sub>3</sub><4 µg/m<sup>3</sup>, NH<sub>3</sub><20 µg/m<sup>3</sup>, Ni<0.01 ng/m<sup>3</sup>, As<0.001 ng/m<sup>3</sup>, Cd<0.001 µg/m<sup>3</sup>, BaP<0.002 ng/m<sup>3</sup>, Pb<0.001 µg/m<sup>3</sup>, CO<0.1 mg/m<sup>3</sup>





Ref: Envlab/19/R-7075

Date: 04.01.2020

**NOISE QUALITY ANALYSIS REPORT FOR DECEMBER-2019**

Client Name & Address	M/s The Dhamra Port Company Limited, Dosinga, Bhadrak, Odisha
Work Order No.	4800044480, Date 18.07.2019
Analysis No.	Envlab/19/R-7075
Type of Sample	Noise Sample
Sampling Done by	Mr. Samyashree Nayak

Sl. No.	Date of Monitoring	Location	NL Day Time dB(A)			NL Night Time dB(A)		
			MAX	MIN	AVG.	MAX	MIN	AVG.
1	11.12.2019	Near Jetty (I)	71.0	68.2	69.6	68.0	65.0	66.5
2	07.12.2019	Near BMH (I)	66.2	54.8	60.5	56.0	49.2	52.6
3	04.12.2019	Near Colony (R)	52.0	48.1	50.1	41.9	38.5	40.2
4	28.12.2019	Dosinga Village (R)	53.4	50.8	52.1	42.7	39.1	40.9
5	18.12.2019	Kanak Prasad Village (R)	52.0	48.4	50.2	43.6	41.7	42.7
6	21.12.2018	Eco Sensitive Zone	47.5	41.9	44.7	37.0	31.0	34.0

\*NL- Noise Level, I- Industrial, R-Residential

**National Standard of Noise Level**

Area Code	Category of Area/Zone	Permissible Limit in dB(A)	
		Day Time	Night Time
A	Industrial Area	75	70
B	Commercial Area	65	55
C	Residential Area	55	45
D	Silence Zone	50	40





Ref: Envlab/19/R-7076

Date: 04.01.2020

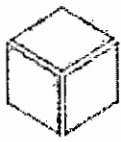
## WATER QUALITY REPORT DECEMBER-2019

Client Name & Address:	M/s The Dhamra Port Company Limited, Dosinga, Bhadrak, Odisha
Work Order No.	4800044480, Date 18.07.2019
Reference No.	Envlab/19/R-7076
Type of Sample	Waste Water Sample
Sampling Location	WW-1: 140 KLD STP Inlet; WW-2: 140 KLD STP Outlet
Date of Sampling	05.12.2019
Date of Analysis	06.12.2019 to 12.12.2019
Sampling Done by	Mr. Samyashree Nayak

Sl. No.	Name of the Parameters	Unit	Testing Method	As per CTO	Analysis Result	
					WW- 1	WW-2
1	pH	--	APHA 450011 B	6.0 - 9.0	7.28	7.45
2	Color	Hazen	APHA 2120 B,C	--	Blackish	CL
3	Odour	--	APHA 2150 B	--	Pungent Smell	U/O
4	Appearance	--	APHA 2110	--	Turbid	Clear
5	Total Suspended Solids	mg/l	APHA 2540 D	<20	159	8
6	Biochemical Oxygen Demand as BOD (3 days at 27°C)	mg/l	APHA 5210 B	<10	96	10
7	Chemical Oxygen Demand (COD)	mg/l	APHA 5220 C	<50	284	40
8	Oil & Grease	mg/l	APHA 5520 B	<10	14.8	3.6
9	Ammonical Nitrogen as NH <sub>3</sub> -N	mg/l	APHA 4500 NH <sub>3</sub> F	<5	12.3	4.2
10	Total Nitrogen	mg/l	Calculation	<10	16.39	6.9
11	Faecal Coliform	MPN/100ml	APHA 9221 E	<100	350	84







Ref: Envlab/19/R-7077

Date: 04.01.2020

## WATER QUALITY REPORT DECEMBER-2019

Client Name & Address	M/s The Dhamra Port Company Limited, Dosinga, Bhadrak, Odisha
Work Order No.	4800044480, Date 18:07,2019
Reference No.	Envlab/19/R-7077
Type of Sample	Waste Water Sample
Sampling Location	WW-1: 140 KLD STP Inlet; WW-2: 140 KLD STP Outlet
Date of Sampling	20.12.2019
Date of Analysis	21.12.2019 to 26.12.2019
Sampling Done by	Mr. Samyashree Nayak

Sl. No.	Name of the Parameters	Unit	Testing Method	As-per CTO	Analysis Result	
					WW-1	WW-2
1	pH	--	APHA 4500H <sup>B</sup>	6.0-9.0	7.14	7.53
2	Color	Hazen	APHA 2120 B <sub>C</sub>	--	Blackish	Cl.
3	Odour	--	APHA 2150 B	--	Pungent Smell	U/O
4	Appearance	--	APHA 2110	--	Turbid	Clear
5	Total Suspended Solids	mg/l	APHA 2540 D	<20	148	9
6	Biochemical Oxygen Demand as BOD (3 days at 27°C)	mg/l	APHA 5210 B	<10	87	8
7	Chemical Oxygen Demand (COD)	mg/l	APHA 5220 C	<50	276	32
8	Oil & Grease	mg/l	APHA 5520 B	<10	17.2	2.4
9	Ammonical Nitrogen as NH <sub>3</sub> -N	mg/l	APHA 4500 NH <sub>3</sub> F	<5	15.7	3.6
10	Total Nitrogen	mg/l	Calculation	<10	18.67	7.61
11	Faecal Coliform	MPN/100ml	APHA 9221 E	<100	240	70





Ref: Envlab/19/R-7078

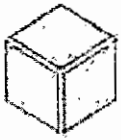
Date: 04.01.2020

## WATER QUALITY REPORT DECEMBER-2019

Client Name & Address	M/s The Dhamra Port Company Limited, Dosinga, Bhadrak, Odisha
Work Order No.	4800044480, Date-18.07.2019
Reference No.	Envlab/19/R-7078
Type of Sample	Waste Water Sample
Sampling Location	WW-1: 15 KLD STP Inlet; WW-2: 15 KLD STP Outlet
Date of Sampling	05.12.2019
Date of Analysis	06.12.2019 to 12.12.2019
Sampling Done by	Mr. Samyashree Nayak

SL. No.	Name of the Parameters	Unit	Testing Method	As per CTO	Analysis Result	
					WW-1	WW-2
1	pH	-	APHA 4500H <sup>+</sup> B	6.0 - 9.0	6.83	7.31
2	Color	Hazen	APHA 2120 B,C	-	Blackish	CL
3	Odour	-	APHA 2150 B	-	Pungent Smell	U/O
4	Appearance	-	APHA 2110	-	Turbid	Clear
5	Total Suspended Solids	mg/l	APHA 2540 D	<20	118	12
6	Biochemical Oxygen Demand as-BOD (3 days at 27°C)	mg/l	APHA 5210 B	<10	45	9
7	Chemical Oxygen Demand (COD)	mg/l	APHA 5220 C	<50	164	44
8	Oil & Grease	mg/l	APHA 5520 B	<10	6.4	ND
9	Ammonical Nitrogen as NH <sub>3</sub> -N	mg/l	APHA 4500 NH <sub>3</sub> F	<5	14.5	2.74
10	Total Nitrogen	mg/l	Calculation	<10	17.06	4.08
11	Faecal Coliform	MPN/100ml	APHA 9221 E	<100	220	46





Ref: Envlab/19/R-7079

Date: 04.01.2020

## WATER QUALITY REPORT DECEMBER-2019

Client Name & Address	M/s The Dhamra Port Company Limited, Dosinga, Bhadrak, Odisha
Work Order No.	4800044480, Date 18.07.2019
Reference No.	Envlab/19/R-7079
Type of Sample	Waste Water Sample
Sampling Location	WW-1: 15 KLD STP Inlet; WW-2: 15 KLD STP Outlet
Date of Sampling	20.12.2019
Date of Analysis	21.12.2019 to 26.12.2019
Sampling Done by	Mr. Samyashree Nayak

Sl. No.	Name of the Parameters	Unit	Testing Method	As per CTO	Analysis Result	
					WW-1	WW-2
1	pH	-	APHA 4500H <sub>B</sub>	6.0 - 9.0	7.16	7.54
2	Color	Hazen	APHA 2120 B,C	-	Blackish	CL
3	Odour	-	APHA 2150 B	-	Pungent Smell	U/O
4	Appearance	-	APHA 2110	-	Turbid	Clear
5	Total Suspended Solids	mg/l	APHA 2540 D	<20	131	11
6	Biochemical Oxygen Demand as BOD (3 days at 27°C)	mg/l	APHA 5210 B	<10	41	6.8
7	Chemical Oxygen Demand (COD)	mg/l	APHA 5220 C	<50	156	28
8	Oil & Grease	mg/l	APHA 5520 B	<10	6.8	ND
9	Ammonical Nitrogen as NH <sub>3</sub> -N	mg/l	APHA 4500 NH <sub>3</sub> F	<5	12.6	2.24
10	Total Nitrogen	mg/l	Calculation	<10	16.03	3.42
11	Feecal Coliform	MPN/100ml	APHA 9221 E	<100	280	63





Ref: Envlab/19/R-7092

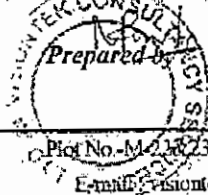
Date: 04.01.2020

## MARINE SURFACE WATER QUALITY REPORT

Client Name & Address	M/s The Dhamra Port Company Limited, Dosinga, Bhadrak, Odisha
Work Order No.	4800044480, Date 18.07.2019
Reference No.	Envlab/19/R-7092
Type of Sample	Marine Sample
Sampling Location	MSW-1: Dhamra river mouth; MSW-2: Dry bulk cargo berth face MSW-3: Liquid/gas cargo berth face; MSW-4: Along channel at 4km
Date of Sampling	16.12.2019
Date of Analysis	17.12.2019 to 24.12.2019
Sampling Done by	Mr. Samyashree Nayak

SL. No.	Name of the Parameters	Unit	Testing Method	Analysis Result			
				MSW-1	MSW-2	MSW-3	MSW-4
1	Colour	Hazen	APHA 2120 B	15	25	25	10
2	Odour	--	APHA 2150B	Agreeable	Agreeable	Agreeable	Agreeable
3	Temperature	°C	APHA 2550 B	25.5	25.8	24.7	25.2
4	Turbidity	NTU	APHA 2130 B	75	81	73	52
5	pH	--	APIIA 4500H <sup>+</sup> B	8.14	7.94	8.09	7.96
6	Electrical Conductivity	µs/cm	APHA 2510 B	21463	20880	25260	25790
7	Salinity	mg/l	APIIA 2520 B	16217	15735	17822	17877
8	Total Suspended Solids	mg/l	APHA 2540 D	68	87	92	51
9	Total dissolved solids	mg/l	APHA 2540 C	14635	14198	17177	17537
10	Total Hardness	mg/l	APHA 2340 C	3576	3508	4084	3868
11	Calcium Hardness	mg/l	APIIA 3500 Ca B	662	619	935	823
12	Magnesium Hardness	mg/l	APHA 3500Mg B	2914	2889	3148	3045
13	Chloride (as Cl)	mg/l	APHA 3500Mg B	11352	10720	15075	13400
14	Dissolved Oxygen	mg/l	APHA 4500 O <sup>2</sup> C	7.1	6.6	6.7	5.8
15	Biochemical Oxygen Demand (3 days at 27°C)	mg/l	APHA 5210 B	1.9	2.2	2.1	2.4
16	Chemical Oxygen Demand (COD)	mg/l	APHA 5220 C	26	30	30	32
17	Oil & Grease	mg/l	APIIA 5520 B	3.6	4.8	5.6	1.6
18	Dissolved phosphates (as PO <sub>4</sub> )	mg/l	APHA 4500 P,D	BDL	BDL	BDL	BDL
19	Sulphate (as SO <sub>4</sub> )	mg/l	APHA 4500 SO <sub>4</sub> <sup>2-</sup> E	278	307	319	312
20	Nitrite (as NO <sub>2</sub> )	mg/l	APIIA 4500 NO <sub>2</sub> B	0.25	0.32	0.43	0.21
21	Nitrate (as NO <sub>3</sub> )	mg/l	APHA 4500 NO <sub>3</sub> E	3.8	4.3	3.5	2.7
22	Ammonical Nitrogen (as NH <sub>3</sub> -N)	mg/l	APHA 4500 NH <sub>3</sub> F	ND	ND	ND	ND
23	Total Nitrogen	mg/l	By Calculation	6.29	7.16	5.55	6.11
24	Total Chromium	mg/l	APHA 3111 B	0.022	0.025	0.042	0.038
25	Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> OH)	mg/l	APHA 5530 B,D	BDL	BDL	BDL	BDL
26	Hexavalent chromium (as Cr <sup>+6</sup> )	mg/l	APIIA 3500Cr B	BDL	BDL	BDL	BDL
27	Copper	mg/l	APHA 3111 B	BDL	BDL	0.056	0.053
28	Cadmium	mg/l	APHA 3111 B	BDL	BDL	BDL	BDL
29	Mercury	mg/l	APIIA 3500 Hg	BDL	BDL	BDL	BDL
30	Floating material	mg/l	APHA 2530 B	2.4	2.7	3.1	1.8
31	Petroleum Hydrocarbon	mg/l	APHA 5520 F	0.22	0.28	0.42	0.15
32	Faecal coliform	MPN/100ml	APHA 9221 E	11	8	9	12

BDL (Below Detectable Limits) Values: Cu<0.02 mg/l, C6H5OH<0.05 mg/l, Hg<0.002 mg/l, Cr<0.05mg/l, Cd<0.01 mg/l, Ni<0.05 mg/l



Plot No.-M-2/23, Chandika Industrial Estate, Patia, Bhubaneswar-751024, Dist.-Khurda, Odisha, Tel.-7752047905  
E-mail: visiontek@vcspl.org, visiontekinc@gmail.com, visiontekinc@yahoo.co.in, Visit us at: www.vcspl.org

Committed For Better Environment



Ref: Envlab/19/R-7093

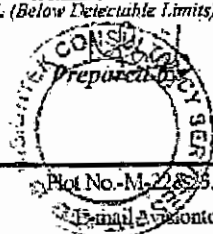
Date: 04.01.2020

## MARINE SURFACE WATER QUALITY REPORT

Client Name & Address	M/s The Dhamra Port Company Limited, Dosinga, Bhadrak, Odisha
Work Order No.	4800044480, Date 18.07.2019
Reference No.	Envlab/19/R-7093
Type of Sample	Marine Sample
Sampling Location	MSW-5: Along channel at 8 km; MSW-6: Along channel at 12 km MSW-7: Dredging dumping site inside sea; MSW-8: Near Kanika island
Date of Sampling	16.12.2019
Date of Analysis	17.12.2019 to 24.12.2019
Sampling Done by	Mr. Samyashree Nayak

SL. No.	Name of the Parameters	Unit	Testing Method	Analysis Result			
				MSW-5	MSW-6	MSW-7	MSW-8
1	Colour	Hazen	APHA 2120 B	10	5	25	15
2	Odour	—	APHA 2150B	Agreeable	Agreeable	Agreeable	Agreeable
3	Temperature	°C	APHA 2550 B	24.8	23.6	25.1	25.3
4	Turbidity	NTU	APHA 2130 B	56	49	86	88
5	pH	—	APHA 4500H'B	7.73	7.94	7.86	7.98
6	Electrical Conductivity	µs/cm	APHA 2510 B	23290	22870	24360	20200
7	Salinity	mg/l	APHA 2520 B	16138	15919	17138	14067
8	Total Suspended Solids	mg/l	APHA 2540 D	45	34	92	53
9	Total dissolved solids	mg/l	APHA 2540 C	15837	15552	16565	13736
10	Total Hardness	mg/l	APHA 2340 C	4180	3918	4077	3410
11	Calcium Hardness	mg/l	APHA 3500 Ca B	773	721	773	521
12	Magnesium Hardness	mg/l	APHA 3500Mg B	3407	3197	3304	2889
13	Chloride (as Cl)	mg/l	APHA 3500Mg B	15792	16271	12682	12203
14	Dissolved Oxygen	mg/l	APHA 4500 O'C	5.7	6.2	5.2	6.0
15	Biochemical Oxygen Demand (3 days at 27°C)	mg/l	APHA 5210 B	2.4	2.2	2.6	2.1
16	Chemical Oxygen Demand (COD)	mg/l	APHA 5220 C	36	30	36	28
17	Oil & Grease	mg/l	APHA 5520 B	2.8	1.2	6.4	4.8
18	Dissolved phosphates (as PO <sub>4</sub> )	mg/l	APHA 4500 P,D	BDL	BDL	BDL	BDL
19	Sulphate (as SO <sub>4</sub> )	mg/l	APHA 4500 SO <sub>4</sub> <sup>2-</sup> E	323	326	314	323
20	Nitrite (as NO <sub>2</sub> )	mg/l	APHA 4500 NO <sub>2</sub> B	0.17	0.22	0.34	0.26
21	Nitrate (as NO <sub>3</sub> )	mg/l	APHA 4500 NO <sub>3</sub> E	2.3	2.1	3.2	2.4
22	Ammonical Nitrogen (as NH <sub>3</sub> -N)	mg/l	APHA 4500 NH <sub>3</sub> F	ND	ND	ND	ND
23	Total Nitrogen	mg/l	By Calculation	3.79	3.46	5.66	4.22
24	Total Chromium	mg/l	APHA 3111 B	0.076	0.058	0.044	0.033
25	Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> OH)	mg/l	APHA 5530 B,D	BDL	BDL	BDL	BDL
26	Hexavalent chromium (as Cr <sup>6+</sup> )	mg/l	APHA 3500 Cr B	BDL	BDL	BDL	BDL
27	Copper	mg/l	APHA 3111 B	0.069	0.057	0.054	0.053
28	Cadmium	mg/l	APHA 3111 B	BDL	BDL	BDL	BDL
29	Mercury	mg/l	APHA 3500 Hg	BDL	BDL	BDL	BDL
30	Floating material	mg/l	APHA 2530 B	1.8	2.0	2.6	2.1
31	Petroleum Hydrocarbon	mg/l	APHA 5520 F	0.16	0.13	0.33	0.21
32	Faecal coliform	MPN/100ml	APHA 9221 E	11	13	9	11

BDL: (Below Detectable Limits) Values: Cu<0.02 mg/l, Cr6<0.05 mg/l, Hg<0.002 mg/l, Cr< 0.05mg/l, Cd<0.01 mg/l, Pb<0.05mg/l



Plot No.-M-22835, Chandaka Industrial Estate, Patia, Bhubaneswar-751024, Dist-Khurda, Odisha, Tel: 9752017905  
E-mail: visiontek@vespl.org, visiontek.in@gmail.com, visiontek.in@yahoo.co.in, Visit us at: www.vespl.org

Committed For Better Environment



Ref: Envlab/19/R-7094

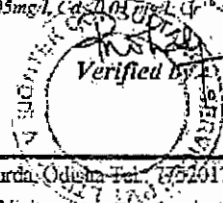
Date: 04.01.2020

## MARINE BOTTOM WATER QUALITY REPORT

Client Name & Address	M/s.The Dhamra Port Company Limited, Dosinga, Bhadrak, Odisha
Work Order No.	4800044480, Date 18.07.2019
Reference No.	Envlab/19/R-7094
Type of Sample	Marine Sample
Sampling Location	MBW-1: Dhamra river mouth; MBW-2: Dry bulk cargo berth face; MBW-3: Liquid/gas cargo berth face; MBW-4: Along channel at 4km
Date of Sampling	16.12.2019
Date of Analysis	17.12.2019 to 24.12.2019
Sampling Done by	Mr. Samyashree Nayak

Sl. No.	Name of the Parameters	Unit	Testing Method	Analysis Result			
				MBW-1	MBW-2	MBW-3	MBW-4
1	Colour	Hazen	APHA 2120 B	30	80	75	50
2	Odour	—	APHA 2150B	Agreeable	Agreeable	Agreeable	Agreeable
3	Temperature	°C	APHA 2550 B	25.8	25.5	26.3	25.4
4	Turbidity	NTU	APHA 2130 B	40	178	85	73
5	pH	—	APHA 4500H <sup>+</sup> B	8.16	7.97	7.87	7.92
6	Electrical Conductivity	µs/cm	APHA 2510 B	24320	28010	20600	26780
7	Salinity	mg/l	APHA 2520 B	16931	19741	14463	18784
8	Total Suspended Solids	mg/l	APHA 2540 D	241	314	276	269
9	Total dissolved solids	mg/l	APHA 2540 C	16538	19049	14008	18210
10	Total Hardness	mg/l	APHA 2340 C	3414	3732	3814	4047
11	Calcium Hardness	mg/l	APHA 3500 Ca B	669	576	761	701
12	Magnesium Hardness	mg/l	APHA 3500Mg B	2745	3156	3053	3346
13	Chloride (as Cl)	mg/l	APHA 3500Mg B	11964	12682	11964	15314
14	Dissolved Oxygen	mg/l	APHA 4500 O <sup>2</sup> C	5.7	5.4	5.1	5.4
15	Biochemical Oxygen Demand (3 days at 27°C)	mg/l	APHA 5210 B	2.3	2.7	3.2	2.8
16	Chemical Oxygen Demand (COD)	mg/l	APHA 5220 C	26	32	44	36
17	Oil & Grease	mg/l	APHA 5520 B	ND	ND	ND	ND
18	Dissolved phosphates	mg/l	APHA 4500 P,D	0.18	0.27	0.25	0.31
19	Sulphate (as SO <sub>4</sub> )	mg/l	APHA 4500 SO <sub>4</sub> <sup>2-</sup> E	303	309	309	301
20	Nitrite (as NO <sub>2</sub> )	mg/l	APHA 4500 NO <sub>2</sub> B	0.19	0.24	0.54	0.37
21	Nitrate (as NO <sub>3</sub> )	mg/l	APHA 4500 NO <sub>3</sub> E	0.41	0.45	1.13	0.82
22	Ammonical Nitrogen (as NH <sub>3</sub> -N)	mg/l	APHA 4500 NH <sub>3</sub> F	ND	ND	ND	ND
23	Total Nitrogen	mg/l	By Calculation	1.80	2.13	3.49	2.55
24	Total Chromium	mg/l	APHA 3111 B	BDL	0.068	BDL	0.036
25	Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> OH)	mg/l	APHA 5530 B,D	BDL	BDL	BDL	BDL
26	Hexavalent chromium (as Cr <sup>6+</sup> )	mg/l	APHA 3500Cr B	BDL	BDL	BDL	BDL
27	Copper	mg/l	APHA 3111 B	0.060	0.117	0.139	0.058
28	Cadmium	mg/l	APHA 3111 B	BDL	BDL	BDL	BDL
29	Mercury	mg/l	APHA 3500 Hg	BDL	BDL	BDL	BDL
30	Floating material	mg/l	APHA 2530 B	ND	ND	ND	ND
31	Petroleum Hydrocarbon	mg/l	APHA 5520 F	ND	ND	ND	ND
32	Faecal coliform	MPN/100ml	APHA 9221 E	12	9	7	4

BDL (Below Detectable Limits) Values: Cu<0.02 mg/l, Cr<0.05 mg/l, Hg<0.002 mg/l, Cr< 0.05mg/l, Cd<0.01 mg/l, Cr<0.05 mg/l.



Plot No. 22&23, Chandaka Industrial Estate, Patia, Bhubaneswar-751024, Dist-Khorda, Odisha. Tel: 752617905  
mail: visiontek@vcspl.org, visiontekinc@gmail.com, visiontekinc@yahoo.co.in, Visit us at: www.vcspl.org

Committed For Better Environment





Ref: Envlab/19/R-7095

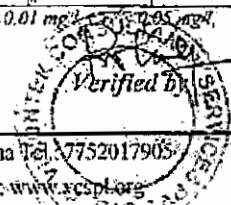
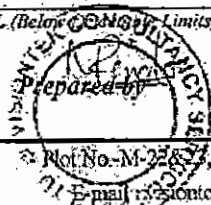
Date: 04.01.2020

## MARINE BOTTOM WATER QUALITY REPORT

Client Name & Address	M/s The Dhamra Port Company Limited, Dosinga, Bhadrak, Odisha
Work Order No.	4800044480, Date 18.07.2019
Reference No.	Envlab/19/R-7095
Type of Sample	Marine Sample
Sampling Location	MBW-5: Along channel at 8 km; MBW-6: Along channel at 12 km MBW-7: Dredging dumping site inside sea; MBW-8: Near Kanika island
Date of Sampling	16.12.2019
Date of Analysis	17.12.2019 to 24.12.2019
Sampling Done by	Mr. Samyashree Nayak

Sl. No.	Name of the Parameters	Unit	Testing Method	Analysis Result			
				MBW-5	MBW-6	MBW-7	MBW-8
1	Colour	Hazen	APHA 2120 B	20	15	50	25
2	Odour	--	APHA 2150B	Agreeable	Agreeable	Agreeable	Agreeable
3	Temperature	°C	APHA 2550 B	24	25.2	24.3	24.7
4	Turbidity	NTU	APHA 2130 B	80	90	102	38
5	pH	--	APHA 4500H B	7.89	7.97	8.01	8.1
6	Electrical Conductivity	µs/cm	APHA 2510 B	35150	24250	21240	25180
7	Salinity	mg/l	APHA 2520 B	24436	17028	14925	17766
8	Total Suspended Solids	mg/l	APHA 2540 D	234	256	287	177
9	Total dissolved solids	mg/l	APHA 2540 C	23902	16490	14443	17122
10	Total Hardness	mg/l	APHA 2340 C	4070	3246	3898	4074
11	Calcium Hardness	mg/l	APHA 3500 Ca B	873	648	701	1030
12	Magnesium Hardness	mg/l	APHA 3500Mg B	3197	2598	3197	3045
13	Chloride (as Cl)	mg/l	APHA 3500Mg B	12921	12635	13160	14357
14	Dissolved Oxygen	mg/l	APHA 4500 O C	5.2	5.8	5.4	5.3
15	Biochemical Oxygen Demand (3 days at 27°C)	mg/l	APHA 5210 B	2.8	2.4	2.6	3.1
16	Chemical Oxygen Demand (COD)	mg/l	APHA 5220 C	40	32	36	52
17	Oil & Grease	mg/l	APHA 5520 B	ND	ND	ND	ND
18	Dissolved phosphates	mg/l	APHA 4500 P, D	0.13	0.18	0.21	0.12
19	Sulphate (as SO <sub>4</sub> )	mg/l	APHA 4500 SO <sub>4</sub> <sup>2-</sup> E	316	284	309	313
20	Nitrite (as NO <sub>2</sub> )	mg/l	APHA 4500 NO <sub>2</sub> B	0.14	0.21	0.26	0.23
21	Nitrate (as NO <sub>3</sub> )	mg/l	APHA 4500 NO <sub>3</sub> E	0.32	0.43	0.37	0.30
22	Ammonical Nitrogen (as NH <sub>3</sub> -N)	mg/l	APHA 4500 NH <sub>3</sub> F	ND	ND	ND	ND
23	Total Nitrogen	mg/l	By Calculation	2.46	2.48	3.09	2.65
24	Total Chromium	mg/l	APHA 3111 B	0.024	0.021	0.022	0.021
25	Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> OH)	mg/l	APHA 5530 B, D	BDL	BDL	BDL	BDL
26	Hexavalent chromium (as Cr <sup>6+</sup> )	mg/l	APHA 3500Cr B	BDL	BDL	BDL	BDL
27	Copper	mg/l	APHA 3111 B	0.061	0.052	0.060	0.061
28	Cadmium	mg/l	APHA 3111 B	BDL	BDL	BDL	BDL
29	Mercury	mg/l	APHA 3500 Hg	BDL	BDL	BDL	BDL
30	Floating material	mg/l	APHA 2530 B	ND	ND	ND	ND
31	Petroleum Hydrocarbon	mg/l	APHA 5520 F	ND	ND	ND	ND
32	Faecal coliform	MPN/100ml	APHA 9221 E	14	11	9	6

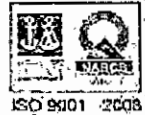
BDL (Below CDMP Limits) Values: Cu < 0.02 mg/l, Cr<sup>6+</sup> < 0.05 mg/l, Hg < 0.002 mg/l, Cr < 0.05 mg/l, Cd < 0.01 mg/l, Pb < 0.05 mg/l



Plot No. M-2583, Chandaka Industrial Estate, Patia, Bhubaneswar-751024, Dist-Khurda, Odisha Tel: 7752017905  
E-mail: visiontek@vcspl.org, visiontek.in@gmail.com, visiontek.in@yahoo.co.in, Visit us at: www.vcspl.org

Committed For Better Environment





Ref: Envlab/19/R-7096

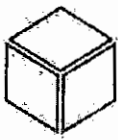
Date: 04.01.2020

## SEA SEDIMENT ANALYSIS REPORT

Client Name & Address	M/s The Dhamra Port Company Limited, Dosinga, Bhadrak, Odisha.
Work Order No.	4800044480, Date 18.07.2019
Reference No.	Envlab/19/R-7096
Type of Sample	Sea Sediment Sample
Sampling Location	SS-1: Dhamra river mouth; SS-2: Dry bulk cargo berth face SS-3: Liquid/gas cargo berth face; SS-4: Along channel at 4km
Date of Sampling	16.12.2019
Date of Analysis	17.12.2019 to 24.12.2019
Sampling Done by	Mr. Samyashree Nayak

Sl. No.	Name of the Parameters	Unit	Testing Method	Analysis Result			
				SS-1	SS-2	SS-3	SS-4
1	pH	--	IS:2720(P-26):1987	7.94	8.14	8.4	8.1
2	Electrical Conductivity	µs/cm	IS:14767:2000	1374	5555	4267	7907
3	Organic Matter	%	VCSPL/SOP/SOIL/05	0.09	1.72	1.44	1.74
4	Moisture Content	%	IS:2720 (Part-2):1973	0.2	2.07	1.9	1.86
5	Chloride	mg/kg	USDA:1954-Reaffirmed 2010	1056	1105	816	246
6	Sulphate	mg/kg		312	310	284	313
7	Sulphide	mg/kg	Method of analysis of Soil by HLS.Tandon	ND	ND	ND	ND
8	Phosphate	mg/kg		BDL	BDL	BDL	BDL
9	Phosphorous	mg/kg		BDL	BDL	BDL	BDL
10	Iron	mg/kg	EPA 3050B, 7000B	4.759	4.387	4.176	2.61
11	Sodium	mg/kg	VCSPL/SOP/SOIL/14	4553	3431	3211	1121
12	Potassium	mg/kg	VCSPL/SOP/SOIL/15	979	938	867	181.5
13	Copper	mg/kg	EPA 3050B, 7000B	6.339	3.484	2.758	6.102
14	Nickel	mg/kg	EPA 3050B, 7000B	1.74	1.449	1.279	2.133
15	Zinc	mg/kg	EPA 3050B, 7000B	2.639	2.541	2.478	4.217
16	Manganese	mg/kg	EPA 3050B	BDL	BDL	BDL	BDL
17	Lead	mg/kg	EPA 3050B	3.769	2.114	2.208	4.296
18	Boron	mg/kg	EPA 3050B	5.529	5.241	5.765	4.822
19	Aluminium	mg/kg	EPA 3050B	BDL	BDL	BDL	BDL
20	Total Chromium	mg/kg	EPA 3050B	6.159	4.079	3.431	6.995
21	Total Nitrogen	mg/kg	Method of analysis of Soil by HLS.Tandon	1.53	2.05	2.21	1.15
22	Organic Nitrogen	mg/kg	Method of analysis of Soil by HLS.Tandon	1.4	1.8	2.1	0.82
23	Petroleum Hydrocarbon	µg/µl	ASTM D 3921	ND	ND	ND	ND
24	Pesticide	µg/µl	APHA 6630	ND	ND	ND	ND
25	Texture	Sand	Method of Soil Analysis, Black 1965, American Society of Agronomy, USA	29.41	26.76	24.82	87.2
		Silt		0.55	0.3	0.5	1.03
		Clay		70.24	72.94	74.27	11.7





# Visiontek Consultancy Services Pvt. Ltd.

(An Enviro Engineering Consulting Cell)



ISO 9001: 2008

ISO 14001: 2015

OHSAS 45001: 2018

Ref: Envlab/19/R-7097

Date: 04.01.2020

## SEA SEDIMENT ANALYSIS REPORT

Client Name & Address	M/s The Dhamra Port Company Limited, Dosinga, Bhadrak, Odisha
Work Order No.	4800044480, Date 18.07.2019
Reference No.	Envlab/19/R-7097
Type of Sample	Sea Sediment Sample
Sampling Location	SS-5: Along channel at 8 km; SS-6: Along channel at 12 km SS-7: Dredging dumping site inside sea; SS-8: Near Kanika island
Date of Sampling	16.12.2019
Date of Analysis	17.12.2019 to 24.12.2019
Sampling Done by	Mr. Samyashree Nayak

SL. No.	Name of the Parameters	Unit	Testing Method	Analysis Result			
				SS-5	SS-6	SS-7	SS-8
1	pH	--	IS:2720(P-26):1987	8.5	8.43	8.32	8.29
2	Electrical Conductivity	µs/cm	IS:14767:2000	1321	2313	5183	1406
3	Organic Matter	%	VCSPL/SOP/SOIL/05	0.13	1.21	1.57	0.49
4	Moisture Content	%	IS 2720 (Part-2) 1973	0.2	1.3	2.66	0.21
5	Chloride	mg/kg	USDA: 1954-Reaffirmed 2010	344	202	1190	234
6	Sulphate	mg/kg	Method of analysis of Soil by HLS.Tandon	344	302	310	308
7	Sulphide	mg/kg		ND	ND	ND	ND
8	Phosphate	mg/kg		BDL	BDL	BDL	BDL
9	Phosphorous	mg/kg		BDL	BDL	BDL	BDL
10	Iron	mg/kg	EPA 3050B, 7000B	1.413	0.36	3.59	0.422
11	Sodium	mg/kg	VCSPL/SOP/SOIL/14	2377	1239	5722	702
12	Potassium	mg/kg	VCSPL/SOP/SOIL/15	622	240	1367	128
13	Copper	mg/kg	EPA 3050B, 7000B	4.429	2.169	2.456	2.637
14	Nickel	mg/kg	EPA 3050B, 7000B	0.826	1.369	1.024	1.218
15	Zinc	mg/kg	EPA 3050B, 7000B	3.553	1.859	2.128	2.247
16	Manganese	mg/kg	EPA 3050B	BDL	BDL	BDL	BDL
17	Lead	mg/kg	EPA 3050B	3.125	1.549	1.78	1.927
18	Boron	mg/kg	EPA 3050B	4.239	3.878	6.135	4.145
19	Aluminium	mg/kg	EPA 3050B	BDL	BDL	BDL	BDL
20	Total Chromium	mg/kg	EPA 3050B	4.707	2.518	2.665	2.856
21	Total Nitrogen	mg/kg	Method of analysis of Soil by HLS.Tandon	2.84	2.14	4.12	2.94
22	Organic Nitrogen	mg/kg	Method of analysis of Soil by HLS.Tandon	2.32	1.9	3.76	2.6
23	Petroleum Hydrocarbon	µg/µl	ASTM D 3921	ND	ND	ND	ND
24	Pesticide	µg/µl	APHA 6630	ND	ND	ND	ND
25	Texture	Sand	Method of Soil Analysis, Black 1965, American Society of Agronomy, USA	77.63	93.6	24.18	81.4
		Silt		0.87	1.02	0.29	1.0
		Clay		21.5	5.13	75.3	17.2

*M. Panda*  
Prepared by



*Pooja Mohanty*  
Verified by



Plot No.-M-22&23, Chandaka Industrial Estate, Patia, Bhubaneswar-751024, Dist-Khurda, Odisha Tel.: 7752017905

E-mail : visiontek@vcspl.org, visiontekin@gmail.com, visiontekin@yahoo.co.in, Visit us at: www.vcspl.org

Committed For Better Environment



Ref: Envlab/19/R-7098

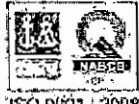
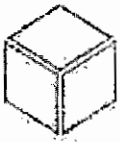
Date: 04.01.2020

## PHYTOPLANKTON MONITORING REPORT

Client Name & Address	M/s The Dhamra Port Company Limited, Dosinga, Bhadrak, Odisha
Work Order No.	4800044480, Date 18.07.2019
Reference No.	Envlab/19/R-7098
Type of Sample	Marine Sample (Phytoplankton)
Sampling Location	S-1: Dhamra river mouth; S-2: Dry bulk cargo berth face S-3: Liquid/gas cargo berth face; S-4: Along channel at 4km S-5: Along channel at 8km; S-6: Along channel at 12 km S-7: Dredging dumping site inside sea; S-8: Near Kanika island
Date of Sampling	16.12.2019
Date of Analysis	17.12.2019 to 24.12.2019
Sampling Done by	Mr. Samyashree Nayak

Name of the Parameters	Total count	No of species	Chlorophyll-a	Major Species	
Unit	CFU/100ml	Nos.	mg/l		
Testing Method	APHA 9215 B, C	APHA 10200 F	APHA 10200 H	APHA 10200 F	
<b>Analysis Result</b>					
S-1	Surface Water	1796	25	1.9021	Bacillaria, C.pentagonum, N.longisigma, C.Furca, Skeletonema costatum
	Bottom water	1392	12	1.6412	Bacillaria, C.pentagonum, Pleurosigma
S-2	Surface Water	5028	22	1.9412	C.pentagonum, Chaetoceros, P.elongatum, Pleurosigma, Skeletonema
	Bottom water	4956	11	1.5812	C.furca, C.pentagonum, Chaetoceros, P.elongatum, Pleurosigma, Skeletonema, N.longisigma
S-3	Surface Water	5208	26	2.6212	N.striata, N.longisigma, Chaetoceros, C.pentagonum
	Bottom water	6812	14	2.1212	C.pentagonum, Bacillaria, Pleurosigma
S-4	Surface Water	2965	18	1.9146	Podosira, Bacillaria, Pleurosigma
	Bottom water	2847	13	1.6612	C.Furca, C.pentagonum, Bacillaria, podosira sp.
S-5	Surface Water	1452	20	0.9412	C.furca, Chaetoceros, Bacillaria
	Bottom water	1288	11	0.7218	N.longisigma, Podosira, C.pentagonum, C.Furca
S-6	Surface Water	1596	18	1.4612	Bacillaria, Chaetoceros, C.furca
	Bottom water	1324	10	1.2417	C.pentagonum, Pleurosigma, Bacillaria
S-7	Surface Water	1892	32	1.5246	C.pentagonum, N.striata, Chaetoceros, Ceratium, N.striata
	Bottom water	1746	18	1.1844	Bacillaria, Podosira, skeletonema
S-8	Surface Water	1489	24	0.8418	Chaetoceros, Ceratium, N.striata
	Bottom water	846	8	0.5418	Bacillaria, N.striata, C.pentagonum, Ceratium fusus





Ref: Envlab/19/R-7099

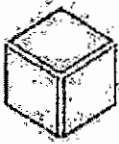
Date: 04.01.2020

## ZOOPLANKTON MONITORING REPORT

Client Name & Address	M/s The Dhamra Port Company Limited, Dosinga, Bhadrak, Odisha	
Work Order No.	4800044480, Date 18.07.2019	
Reference No.	Envlab/19/R-7099	
Type of Sample	Marine Sample (Zooplankton)	
Sampling Location	S-1: Dhamra river mouth; S-3: Liquid/gas cargo berth face; S-5: Along channel at 8 km; S-7: Dredging dumping site inside sea;	S-2: Dry bulk cargo berth face S-4: Along channel at 4 km S-6: Along channel at 12 km S-8: Near Kanika island.
Date of Sampling	16.12.2019	
Date of Analysis	17.12.2019 to 24.12.2019	
Sampling Done by	Mr. Samyashree Nayak	

Name of the Parameters	Total count	No of species	Major Species	
Unit	CFU/100ml	Nos.	-	
Testing Method	APHA 9215 B, C	APHA 10200 G	APHA 10200.F	
<b>Analysis Result</b>				
S-1	Surface Water	1512	26	Protozoa, Copepod, Rotifera, Nematoda, Insecta Larvae
	Bottom water	1508	12	Protozoa, Ostracoda, Copepod.
S-2	Surface Water	1596	22	Rotifers, Nematoda Spp.
	Bottom water	1112	14	Cladocera, nematoda, Rotifera Spp.
S-3	Surface Water	3012	32	Crustacean Larvae, Ostracoda Spp.
	Bottom water	2512	21	Crustacean Larvae, Nematoda, Protozoa Spp.
S-4	Surface Water	2110	21	Crustacean Larvae, Lucifera, Bacteriological Larvae, Cladocera
	Bottom water	2012	18	Copepod, Rotifera Spp.
S-5	Surface Water	1809	23	Copepod, Rotifera, Protozoa, Ostracoda Spp.
	Bottom water	1386	11	Nematoda, Cladocera Spp.
S-6	Surface Water	1412	12	Nematoda, Protozoa, Cladocera, Crustacean Larvae
	Bottom water	1211	18	Protozoa, Anostraca, Nematoda Larvae
S-7	Surface Water	1286	18	Copepoda, Rotifera, Nematoda
	Bottom water	1251	12	Anostraca, Cladocera, Nematoda, Rotifera
S-8	Surface Water	1188	26	Protozoa, Rotifera, Nematoda, Ostracoda
	Bottom water	1106	13	Nematoda, Rotifera, Ctenophora





Ref: Enylab/19/R-7100

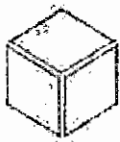
Date: 04.01.2020

## MICROBIOLOGICAL MONITORING REPORT

Client Name & Address	M/s The Dhamra Port Company Limited, Dosinga, Bhadrak, Odisha
Work Order No.	4800044480, Date 18.07.2019
Reference No.	Enylab/19/R-7100
Type of Sample	Marine Sample
Sampling Location	S-1: Dhamra river mouth; S-2: Dry bulk cargo berth face S-3: Liquid/gas cargo berth face; S-4: Along channel at 4km S-5: Along channel at 8 km; S-6: Along channel at 12 km S-7: Dredging dumping site inside sea; S-8: Near Kanika island
Date of Sampling	16.12.2019
Date of Analysis	17.12.2019 to 24.12.2019
Sampling Done by	Mr. Samyashree Nayak

Name of the Parameters	Total Bacteria count	Total Coliform	Faecal Coliform	E. coli	Enterococcus	Salmonella	Shigella	Vibrio
Unit	CFU/ml	MPN/100ml	MPN/100ml	MPN/100ml	CFU/ml	CFU/ml	CFU/ml	CFU/ml
Testing Method	APHA 9215 B, C	APHA 9221 B	APHA 9221 E	APHA 9221 F	APHA 9230 B	APHA 9260 B	APHA 9260 E	APHA 9260 H
<b>Analysis Result</b>								
S-1	Surface Water	540	80	11	ND	ND	ND	ND
	Bottom water	900	70	12	ND	ND	ND	ND
S-2	Surface Water	350	50	8	ND	ND	ND	ND
	Bottom water	540	40	9	ND	ND	ND	ND
S-3	Surface Water	540	110	9	ND	ND	ND	ND
	Bottom water	240	80	7	ND	ND	ND	ND
S-4	Surface Water	350	33	12	ND	ND	ND	ND
	Bottom water	280	24	4	ND	ND	ND	ND
S-5	Surface Water	540	29	11	ND	ND	ND	ND
	Bottom water	900	40	14	ND	ND	ND	ND
S-6	Surface Water	1100	110	13	ND	ND	ND	ND
	Bottom water	540	34	11	ND	ND	ND	ND
S-7	Surface Water	350	46	9	ND	ND	ND	ND
	Bottom water	220	80	9	ND	ND	ND	ND
S-8	Surface Water	350	60	11	ND	ND	ND	ND
	Bottom water	280	38	6	ND	ND	ND	ND





Ref: Envlab/19/R-7101

Date: 04.01.2020

## PRIMARY PRODUCTIVITY MONITORING REPORT

Client Name & Address	M/s The Dhamra Port Company Limited, Dosinga, Bhadrak, Odisha
Work Order No.	4800044480, Date 18.07.2019
Reference No.	Envlab/19/R-7101
Type of Sample	Marine Sample (Productivity)
Date of Sampling	16.12.2019
Date of Analysis	17.12.2019 to 24.12.2019
Sampling Done by	Mr. Samyashree Nayak

Sl. No.	Monitoring Location		Gross Primary productivity (mgC/L/day)	Net Primary productivity (mgC/L/day)
1	S-1: Dhamra river mouth	Surface Water	3.4	1.8
		Bottom water	3.8	1.2
2	S-2: Dry bulk cargo berth face	Surface Water	3.2	1.6
		Bottom water	3	1.1
3	S-3: Liquid/gas cargo berth face	Surface Water	4.1	2.8
		Bottom water	2.6	1.6
4	S-4: Along channel at 4km	Surface Water	2.8	2.4
		Bottom water	2	1.2
5	S-5: Along channel at 8 km	Surface Water	2.9	2.4
		Bottom water	2.2	1.6
6	S-6: Along channel at 12 km	Surface Water	3.6	2.6
		Bottom water	2.2	1.4
7	S-7: Dredging dumping site inside sea	Surface Water	3.1	1.6
		Bottom water	2.4	1.2
8	S-8: Near Kanika Island	Surface Water	3.6	1.8
		Bottom water	2.1	1.2







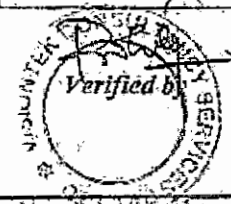
Ref: Envlab/19/R-7102

Date: 04.01.2020

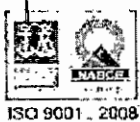
## PHYTO BENTHOS MONITORING REPORT

Client Name & Address	M/s The Dhamra Port Company Limited, Dosinga, Bhadrak, Odisha
Work Order No.	4800044480, Date 18.07.2019
Reference No.	Envlab/19/R-7102
Type of Sample	Marine Sample
Sampling Location	S-1: Dhamra river mouth; S-2: Dry bulk cargo berth face S-3: Liquid/gas cargo berth face; S-4: Along channel at 4km S-5: Along channel at 8 km; S-6: Along channel at 12 km S-7: Dredging dumping site inside sea; S-8: Near Kanika island
Date of Sampling	16.12.2019
Date of Analysis	17.12.2019 to 24.12.2019
Sampling Done by	Mr. Samyashree Nayak

Name of the Parameters	Fungus	Total Count	No of species	Diversity Index	Major species	
Unit	CFU/g dry WL	50 mg wet sediment	Nos.	--	--	
Testing Method	APHA 9610 B	APIA 9215 B, C	APHA 10500 B	By Calculation (Shannon's Index)	APHA 10500 B	
<b>Analysis Result</b>						
S-1	Surface Water	2712	292	18	0.9214	<i>N.longisigma</i>
	Bottom water	2612	360	22	0.8106	<i>Ditylum, Rotifera</i>
S-2	Surface Water	3961	340	18	0.6626	<i>Podasira, N.longisigma</i>
	Bottom water	3681	264	12	0.5846	<i>Podosira</i>
S-3	Surface Water	3048	296	26	0.6812	<i>Podosira, Echinodermata</i>
	Bottom water	1892	238	11	0.5542	<i>N.longisigma, ditylum</i>
S-4	Surface Water	3512	288	14	0.5568	<i>Ditylum, Copepods</i>
	Bottom water	4378	232	8	0.5546	<i>Ditylum</i>
S-5	Surface Water	2612	278	15	0.8882	<i>N.longisigma, Ctenophora</i>
	Bottom water	1414	248	10	0.8906	<i>Podosira, N.longisigma</i>
S-6	Surface Water	1989	310	10	0.9878	<i>Podosira, Ctenophora</i>
	Bottom water	1746	342	8	0.9312	<i>Podosira, N.longisigma</i>
S-7	Surface Water	2561	366	14	0.5858	<i>ditylum</i>
	Bottom water	2512	292	11	0.7121	<i>Podosira</i>
S-8	Surface Water	2912	224	26	0.7088	<i>Podosira, N.longisigma</i>
	Bottom water	2122	588	18	0.6487	<i>Podosira</i>







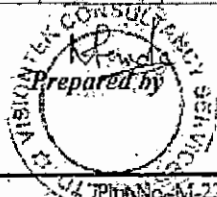
Ref: Enylab/19/R-7103

Date: 04.01.2020

## TOTAL FAUNA MONITORING REPORT

Client Name & Address	M/s The Dhamra Port Company Limited, Dosinga, Bhadrak, Odisha
Work Order No.	4800044480, Date 18.07.2019
Reference No.	Enylab/19/R-7103
Type of Sample	Marine Sample
Sampling Location	S-1: Dhamra river mouth; S-2: Dry bulk cargo berth face S-3: Liquid/gas cargo berth face; S-4: Along channel at 4km S-5: Along channel at 8 km; S-6: Along channel at 12 km S-7: Dredging dumping site inside sea; S-8: Near Kanika island
Date of Sampling	16.12.2019
Date of Analysis	17.12.2019 to 24.12.2019
Sampling Done by	Mr. Samyashree Nayak

Name of the Parameters	Name of phylum	Class & No. of individuals encountered	Total no of species encountered	Total fauna per m <sup>3</sup>	
Testing Method	APHA 10700				
Analysis Result					
S-1	Surface Water	Annelida, Mollusca	Polychaeta-40, Bivalvia-28	50	131
	Bottom water	Annelida, Mollusca	Polychaeta-28, Gastropoda-14, Pelecypoda-7	30	188
S-2	Surface Water	Annelida, Mollusca	Polychaeta-22, Gastropoda-10, Bivalvia-16, Scaphopoda-5	15	846
	Bottom water	Annelida, Mollusca	Polychaeta-36, Gastropoda-12, Bivalvia-32, Scaphopoda-28	34	840
S-3	Surface Water	Annelida, Mollusca	Polychaeta-60, Bivalvia-32	88	446
	Bottom water	Annelida, Mollusca	Polychaeta-22, Bivalvia-18	90	774
S-4	Surface Water	Athropoda, Annelida, Mollusca	Amphipoda-35, Polychaeta-10, Gastropoda-8, Bivalvia-14, Scaphopoda-7	78	812
	Bottom water	Athropoda, Annelida, Mollusca	Amphipoda-45, Polychaeta-12, Gastropoda-8, Bivalvia-14, Pelecypoda-7	88	936
S-5	Surface Water	Annelida, Mollusca	Polychaete-30, Gastropoda-22, Bivalvia-18, Pelecypoda-31	71	706
	Bottom water	Annelida, Mollusca	Polychaete-36, Gastropoda-25, Bivalvia-22, Pelecypoda-38	96	572
S-6	Surface Water	Athropoda, Annelida, Mollusca	Malagostraca-14, Polychaete-24, Gastropoda-18, Pelecypoda-9	72	496
	Bottom water	Athropoda, Annelida, Mollusca	Malagostraca-20, Polychaete-26, Gastropoda-21, Pelecypoda-10	48	612
S-7	Surface Water	Annelida, Athropoda	Polycheata-14, Copepoda-20	62	599
	Bottom water	Annelida, Athropoda	Polycheata-16, Copepoda-28	40	556
S-8	Surface Water	Athropoda, Annelida	Malagostraca-20, Polychaete-11	38	588
	Bottom water	Athropoda, Annelida	Malagostraca-12, Polychaete-36	42	540





Ref: Euvlab/19/R- 7221

Date: 04.01.2020

## SOURCE EMISSION MONITORING REPORT

Client Name & Address	M/s The Dhamra Port Company Limited, Dosinga, Bhadrak, Odisha
Work Order No.	4800044480, Date 18.07.2019
Reference No.	Euvlab/19/R-7221
Type of Sample	Source Emission (DG Stack)
Sampling Location	DG-1: PSS DG SET (160KVA, 128KWH)
Date of Sampling	14.12.2019
Date of Analysis	16.12.2019 to 19.12.2019
Sampling Done by	Mr. Bedprakash Mohanty

Sl No.	Parameter	Unit	Standard as per MoEF & CC	Analysis Results
1	Stack Temperature	$^{\circ}\text{K}$	—	387
2	Velocity	m/sec	—	13.34
3	Particulate Matter as PM	g/Kw/hr	$\leq 0.2$ (g/Kw/hr)	0.11
4	Oxides of Nitrogen as NO <sub>x</sub>	g/Kw/hr	—	0.6
5	Hydrocarbon (HC)	g/Kw/hr	—	0.08
6	NO <sub>x</sub> + HC	g/Kw/hr	$\leq 4.0$ (g/Kw/hr)	0.68
7	Carbon Monoxide as CO	g/Kw/hr	$\leq 3.5$ (g/Kw/hr)	1.9





Ref: Envlab/19/R- 7222

Date: 04.01.2020

## SOURCE EMISSION MONITORING REPORT

Client Name & Address	M/s The Dhamra Port Company Limited, Dosinga, Bhadrak, Odisha
Work Order No.	4800044480, Date 18.07.2019
Reference No.	Envlab/19/R-7222
Type of Sample	Source Emission (DG Stack)
Sampling Location	DG-2: DG Set near MCC-1 (160KVA, 128KWH)
Date of Sampling	14.12.2019
Date of Analysis	16.12.2019 to 19.12.2019
Sampling Done by	Mr. Bedprakash Mohanty

Sl. No.	Parameter	Unit	Standard as per MoEF & CC	Analysis Results
1	Stack Temperature	$^{\circ}\text{K}$	—	391
2	Velocity	m/sec	—	13.34
3	Particulate Matter as PM	g/Kw/hr	$\leq 0.2$ (g/Kw/hr)	0.14
4	Oxides of Nitrogen as NOx	g/Kw/hr	—	0.65
5	Hydrocarbon	g/Kw/hr	—	0.08
6	NOx + HC	g/Kw/hr	$\leq 4.0$ (g/Kw/hr)	0.73
7	Carbon Monoxide as CO	g/Kw/hr	$\leq 3.5$ (g/Kw/hr)	1.5





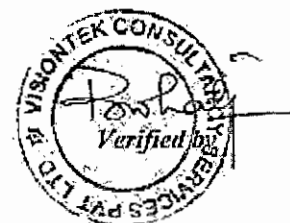
Ref: Envlab/19/R- 7223

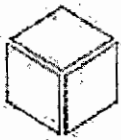
Date: 04.01.2020

## SOURCE EMISSION MONITORING REPORT

Client Name & Address	M/s The Dhamra Port Company Limited, Dosinga, Bhadrak, Odisha
Work Order No.	4800044480, Date 18.07.2019
Reference No.	Envlab/19/R-7223
Type of Sample	Source Emission (DG Stack)
Sampling Location	DG-3: Township DG Set (180KVA, 144KWH)
Date of Sampling	14.12.2019
Date of Analysis	16.12.2019 to 19.12.2019
Sampling Done by	Mr. Bedprakash Mohanty

Sl. No.	Parameter	Unit	Standard as per MoEF & CC	Analysis Results
1	Stack Temperature	<sup>o</sup> K	--	385
2	Velocity	m/sec	--	19.23
3	Particulate Matter as PM	g/Kw/hr	≤0.2 (g/Kw/hr)	0.15
4	Oxides of Nitrogen as NOx	g/Kw/hr	--	1.26
5	Hydrocarbon	g/Kw/hr	--	0.16
6	NOx+HC	g/Kw/hr	≤4.0 (g/Kw/hr)	1.42
7	Carbon Monoxide as CO	g/Kw/hr	≤ 3.5 (g/Kw/hr)	1.8





Ref: Envlab/19/R- 7224

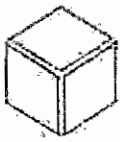
Date: 04.01.2020

## SOURCE EMISSION MONITORING REPORT

Client Name & Address	M/s.The Dhamra Port Company Limited, Dosinga, Bhadrak, Odisha
Work Order No.	4900044480, Date 18.07.2019
Reference No.	Envlab/19/R-7224
Type of Sample	Source Emission (DG Stack)
Sampling Location	DG-4: DG Set near Kalibhanja Guest House (63KVA, 50KWH)
Date of Sampling	14.12.2019
Date of Analysis	16.12.2019 to 19.12.2019
Sampling Done by	Mr. Bedprakash Mohanty

Sl. No.	Parameter	Unit	Standard as per MoEF & CC	Analysis Results
				DG-4
1	Stack Temperature	$^{\circ}$ K	—	371
2	Velocity	m/sec	—	12.91
3	Particulate Matter as PM	g/Kw/hr	$\leq 0.3$ (g/Kw/hr)	0.21
4	Oxides of Nitrogen as NOx	g/Kw/hr	—	0.97
5	Hydrocarbon	g/Kw/hr	—	0.18
6	NOx + HC	g/Kw/hr	$\leq 4.7$ (g/Kw/hr)	1.15
7	Carbon Monoxide as CO	g/Kw/hr	$\leq 3.5$ (g/Kw/hr)	2.0





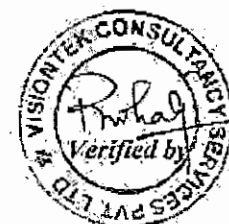
Ref: Envlab/19/R- 7225

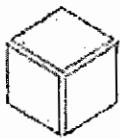
Date: 04.01.2020

## SOURCE EMISSION MONITORING REPORT

Client Name & Address	M/s The Dhamra Port Company Limited, Dosinga, Bhadrak, Odisha
Work Order No.	4800044480, Date 18.07.2019
Reference No.	Envlab/19/R-7225
Type of Sample	Source Emission (DG Stack)
Sampling Location	DG-5: DG Set near DAV School, Kumara (100KVA, 80KWH)
Date of Sampling	14.12.2019
Date of Analysis	16.12.2019 to 19.12.2019
Sampling Done by	Mr. Bedprakash Mohanty

Sl. No.	Parameter	Unit	Standard as per MoEF & CC	Analysis Results
1.	Stack Temperature	$^{\circ}\text{K}$	—	387
2.	Velocity	m/sec	—	11
3.	Particulate Matter as:PM	g/Kw/hr	$\leq 0.2$ (g/Kw/hr)	0.10
4.	Oxides of Nitrogen as: NOx	g/Kw/hr	—	0.47
5.	Hydrocarbon	g/Kw/hr	—	0.1
6.	NOx + HC	g/Kw/hr	$\leq 4.0$ (g/Kw/hr)	0.57
7.	Carbon Monoxide as: CO	g/Kw/hr	$\leq 3.5$ (g/Kw/hr)	1.14





Ref: Envlab/19/R- 7226

Date: 04.01.2020

## SOURCE EMISSION MONITORING REPORT

Client Name & Address	M/s The Dhamra Port Company Limited, Dosinga, Bhadrak, Odisha
Work Order No.	4800044480, Date 18.07.2019
Reference No.	Envlab/19/R-7226
Type of Sample	Source Emission (DG Stack)
Sampling Location	DG-6: DG Set near Running Room (200KVA, 160KWH)
Date of Sampling	14.12.2019
Date of Analysis	16.12.2019 to 19.12.2019
Sampling Done by	Mr. Bedprakash Mohanty

Sl. No.	Parameter	Unit	Standard as per MoEF & CC	Analysis Results
1	Stack Temperature	$^{\circ}$ K	--	362
2	Velocity	m/sec	--	12.85
3	Particulate Matter as PM	g/Kw/hr	$\leq 0.2$ (g/Kw/hr)	0.14
4	Oxides of Nitrogen as NOx	g/Kw/hr	--	0.74
5	Hydrocarbon	g/Kw/hr	--	0.11
6	NOx + HC	g/Kw/hr	$\leq 4.0$ (g/Kw/hr)	0.85
7	Carbon Monoxide as CO	g/Kw/hr	$\leq 3.5$ (g/Kw/hr)	2.0







# Visiontek Consultancy Services Pvt. Ltd.

(An Enviro Engineering Consulting Cell)



ISO 9001 : 2008

ISO 14001 : 2015  
OHSAS 18001 : 2007

Ref: Envlab/19/R-7227

Date: 04.01.2020

## NOISE QUALITY ANALYSIS REPORT FOR DECEMBER-2019

Client Name & Address	M/s The Dhamra Port Company Limited, Dosinga, Bhadrak, Odisha
Work Order No.	4800044480, Date 18.07.2019
Analysis No.	Envlab/19/R-7227
Type of Sample	Noise Sample
Sampling Done by	Mr. Samyashree Nayak

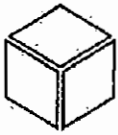
Sl No.	Date of Monitoring	Location	Noise Level Time dB(A) Day Time			Noise Level Time dB(A) Night Time		
			MAX	MIN	Avg.	MAX	MIN	Avg.
1	14.12.2019	Near PSS-DG SET	72.1	68.7	70.5	54.2	48.6	49.8
2	14.12.2019	DG Set near MCC-1	73.6	70.6	72.0	63.7	50.5	55.7
3	14.12.2019	Township DG Set	64.6	61.4	62.8	59.5	49.3	53.1
4	14.12.2019	DG Set near Kalibhanja Guest House	74.0	70.5	72.2	61.6	52.8	51.6
5	14.12.2019	DG Set near DAV School, Kumara	63.5	60.4	61.7	54.7	46.2	49.7
6	14.12.2019	DG Set near Running Room	65.4	63.2	64.2	50.3	48.5	46.2
National Standard of Noise Level (CPCB Standard, G.S.R. 215 (E), under EP Act 1986)			75					



Plot No.-M-22&23, Chandaka Industrial Estate, Patia, Bhubaneswar-751024, Dist-Khorda, Odisha.Tel: 7752017905

E-mail : visiontek@vcspl.org, visiontek@gmail.com, visiontek@yahoo.co.in, Visit us at: www.vcspl.org

Committed For Better Environment



# Visiontek Consultancy Services Pvt. Ltd.

(An Enviro Engineering Consulting Cell)



ISO 9001 : 2008  
ISO 14001: 2015

OHSAS 45001: 2018

Ref: Envlab/19/R-7664

Date : 04.02.2020

## AMBIENT AIR QUALITY MONITORING REPORT FOR JANUARY-2020


Client Name & Address	M/s The Dhamra Port Company Limited, Dosinga, Bhadrak, Odisha
Work Order No.	4800044480, Date 18.07.2019
Reference No.	Envlab/19/R-7664
Type of Sample	Ambient Air Sample
Sampling Location	AAQMS-1: Colony Area
Sampling Done by	Mr. Samyashree Nayak
Sampling Duration	24hrs
Monitoring Instrument	RDS (APM 460), FPS (APM 550) Envirotech, CO Analyzer, VOC Sampler

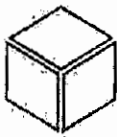
Date	PARAMETERS											
	PM <sub>10</sub> (µg/m <sup>3</sup> )	PM <sub>2.5</sub> (µg/m <sup>3</sup> )	SO <sub>2</sub> (µg/m <sup>3</sup> )	NO <sub>x</sub> (µg/m <sup>3</sup> )	CO (mg/m <sup>3</sup> )	NH <sub>3</sub> (µg/m <sup>3</sup> )	O <sub>3</sub> (µg/m <sup>3</sup> )	Pb (µg/m <sup>3</sup> )	Ni (ng/m <sup>3</sup> )	As (ng/m <sup>3</sup> )	C <sub>6</sub> H <sub>6</sub> (µg/m <sup>3</sup> )	BaP (ng/m <sup>3</sup> )
03.01.2020	60.0	32.4	11.5	15.4	1.15	20.8	6.2	BDL	BDL	BDL	BDL	BDL
07.01.2020	54.0	29.5	10.6	13.7	1.15	21.6	5.8	BDL	BDL	BDL	BDL	BDL
10.01.2020	61.0	31.7	11.3	14.8	1.15	22.2	6.1	BDL	BDL	BDL	BDL	BDL
14.01.2020	64.0	33.5	9.7	14.0	1.15	23.7	6.7	BDL	BDL	BDL	BDL	BDL
17.01.2020	57.0	29.8	11.2	15.6	1.15	21.8	5.9	BDL	BDL	BDL	BDL	BDL
21.01.2020	52.0	27.0	10.8	14.7	1.15	22.5	6.2	BDL	BDL	BDL	BDL	BDL
24.01.2020	59.0	30.1	11.2	18.3	1.15	23.7	6.5	BDL	BDL	BDL	BDL	BDL
28.01.2020	53.0	27.3	11.7	16.2	1.15	22.4	6.8	BDL	BDL	BDL	BDL	BDL
Monthly Average	57.5	30.2	11.0	15.3	1.15	22.3	6.3	BDL	BDL	BDL	BDL	BDL
CPCB, New Delhi AAQ Standard	100	60	80	80	100	4	400	1	20	6	5	1
TEST METHOD	Gravimetric IS 5182: Part 23	Gravimetric EPA 1998	Improved Wes & Genke Method IS 5182 (Part-2) RA2017	Modified Jacob & Hochheiser Method IS 5182 (Part-6) RA2017	Non Dispersive Infrared Method IS 5182 (Part-10):1999	Indo Phenol Blue Method Air Sampling, 3rd Edn. By James P. Lodge (Method-401)	Chemical Method Air Sampling, 3rd Edn. By James P. Lodge (Method-411)	AAS Method IS 5182(Part-22):2004			Gas Chromatography IS 5182 (Part-11):2006	Solvent Extraction IS 5182 (Part-12):2004

*Manda*  
Prepared by



*Puja Mahapatra*  
Verified by





# Visiontek Consultancy Services Pvt. Ltd.

(An Enviro Engineering Consulting Cell)



ISO 9001 : 2008  
ISO 14001 : 2015  
OHSAS 45001 : 2018

Ref: Envlab/19/R-7665

Date : 04.02.2020

## AMBIENT AIR QUALITY MONITORING REPORT FOR JANUARY-2020

Client Name & Address	M/s The Dhamra Port Company Limited, Dosinga, Bhadrak, Odisha
Work Order No.	4800044480, Date 18.07.2019
Reference No.	Envlab/19/R-7665
Type of Sample	Ambient Air Sample
Sampling Location	AAQMS-2: Near BMH 1
Sampling Done by	Mr. Samyashree Nayak
Sampling Duration	24hrs
Monitoring Instrument	RDS (APM 460), FPS (APM 550) Envirotech, CO Analyzer, VOC Sampler

Date	PARAMETERS											
	PM <sub>10</sub> (µg/m <sup>3</sup> )	PM <sub>2.5</sub> (µg/m <sup>3</sup> )	SO <sub>2</sub> (µg/m <sup>3</sup> )	NO <sub>x</sub> (µg/m <sup>3</sup> )	CO (mg/m <sup>3</sup> )	NH <sub>3</sub> (µg/m <sup>3</sup> )	O <sub>3</sub> (µg/m <sup>3</sup> )	Pb (µg/m <sup>3</sup> )	Ni (ng/m <sup>3</sup> )	As (ng/m <sup>3</sup> )	C <sub>6</sub> H <sub>6</sub> (µg/m <sup>3</sup> )	BaP (ng/m <sup>3</sup> )
03.01.2020	64.0	33.8	12.4	16.4	1.15	22.8	7.7	BDL	BDL	BDL	BDL	BDL
07.01.2020	69.0	35.2	13.1	18.3	1.15	21.7	7.2	BDL	BDL	BDL	BDL	BDL
10.01.2020	74.0	38.1	11.8	15.4	1.15	23.2	6.8	BDL	BDL	BDL	BDL	BDL
14.01.2020	68.0	35.4	12.6	16.0	1.15	22.5	7.5	BDL	BDL	BDL	BDL	BDL
17.01.2020	71.0	36.7	13.7	18.2	1.15	21.7	8.0	BDL	BDL	BDL	BDL	BDL
21.01.2020	75.0	39.7	14.1	17.8	1.15	22.2	8.3	BDL	BDL	BDL	BDL	BDL
24.01.2020	77.0	42.3	12.6	16.4	1.15	21.8	7.9	BDL	BDL	BDL	BDL	BDL
28.01.2020	69.0	38.4	13.8	17.2	1.15	23.7	8.1	BDL	BDL	BDL	BDL	BDL
Monthly Average	70.9	37.5	13.0	17.0	1.15	22.5	7.7	BDL	BDL	BDL	BDL	BDL
CPCB, New Delhi AAQ Standard	100	60	80	80	100	4	400	1	20	6	5	1
TEST METHOD	Gravimetric IS 5182: Part 23	Gravimetric EPA 1998	Improved Wes & Geake Method IS 5182 (Part-2) RA2017	Modified Jacob & Hochheiser Method IS 5182 (Part-6) RA2017	Non Dispersive Infrared Method IS 5182 (Part-10):1999	Indo Phenol Blue Method Air Sampling, 3rd Edn. By James P. Lodge (Method-401)	Chemical Method Air Sampling, 3rd Edn. By James P. Lodge (Method-411)	AAS Method IS 5182(Part-22):2004			Gas Chromatography IS 5182 (Part-11):2006	Solvent Extraction IS 5182 (Part-12):2004

Prepared by



Verified by



Plot No.-M-22&23, Chandaka Industrial Estate, Patia, Bhubaneswar-751024, Dist-Khurda, Odisha Tel.: 7752017905

E-mail : visiontek@vcspl.org, visiontekin@gmail.com, visiontekin@yahoo.co.in, Visit us at: www.vcspl.org

Committed For Better Environment



# Visiontek Consultancy Services Pvt. Ltd.

(An Enviro Engineering Consulting Cell)



ISO 9001 : 2008  
ISO 14001: 2015  
OHSAS 45001: 2018

Ref: Envlab/19/R-7666

Date : 04.02.2020

## AMBIENT AIR QUALITY MONITORING REPORT FOR JANUARY-2020

Client Name & Address	M/s The Dhamra Port Company Limited, Dosinga, Bhadrak, Odisha
Work Order No.	4800044480, Date 18.07.2019
Reference No.	Envlab/19/R-7666
Type of Sample	Ambient Air Sample
Sampling Location	AAQMS-3: Near Jetty
Sampling Done by	Mr. Samyashree Nayak
Sampling Duration	24hrs
Monitoring Instrument	RDS (APM 460), FPS (APM 550) Envirotech, CO Analyzer, VOC Sampler

Date	PARAMETERS											
	PM <sub>10</sub> (µg/m <sup>3</sup> )	PM <sub>2.5</sub> (µg/m <sup>3</sup> )	SO <sub>2</sub> (µg/m <sup>3</sup> )	NO <sub>x</sub> (µg/m <sup>3</sup> )	CO (mg/m <sup>3</sup> )	NH <sub>3</sub> (µg/m <sup>3</sup> )	O <sub>3</sub> (µg/m <sup>3</sup> )	Pb (µg/m <sup>3</sup> )	Ni (ng/m <sup>3</sup> )	As (ng/m <sup>3</sup> )	C <sub>6</sub> H <sub>6</sub> (µg/m <sup>3</sup> )	BaP (ng/m <sup>3</sup> )
03.01.2020	87.0	44.0	28.6	38.4	2.86	24.7	11.5	0.017	BDL	BDL	BDL	BDL
07.01.2020	84.0	40.0	29.2	42.0	2.29	26.6	10.8	0.014	BDL	BDL	BDL	BDL
10.01.2020	79.0	35.9	27.7	36.2	3.44	25.4	11.3	0.019	BDL	BDL	BDL	BDL
14.01.2020	86.0	43.0	29.3	39.5	3.44	26.7	12.6	0.021	BDL	BDL	BDL	BDL
17.01.2020	85.0	40.5	28.4	37.3	1.72	24.6	13.2	0.018	BDL	BDL	BDL	BDL
21.01.2020	81.0	38.9	26.8	35.5	3.44	26.1	12.5	0.022	BDL	BDL	BDL	BDL
24.01.2020	80.0	41.0	24.6	35.2	2.86	28.2	11.7	0.016	BDL	BDL	BDL	BDL
28.01.2020	88.0	41.0	27.2	36.7	3.44	29.4	11.2	0.017	BDL	BDL	BDL	BDL
Monthly Average	83.8	40.5	27.7	37.6	2.94	26.5	11.9	0.018	BDL	BDL	BDL	BDL
CPCB, New Delhi AAQ Standard	100	60	80	80	100	4	400	1	20	6	5	1
TEST METHOD	Gravimetric IS 5182: Part 23	Gravimetric EPA 1998	Improved Wes & Geake Method IS 5182 (Part-2) RA2017	Modified Jacob & Hochheiser Method IS 5182 (Part-6) RA2017	Non Dispersive Infrared Method IS 5182 (Part-10):1999	Indo Phenol Blue Method Air Sampling, 3rd Edn. By James P. Lodge (Method-401)	Chemical Method Air Sampling, 3rd Edn. By James P. Lodge (Method-411)	AAS Method IS 5182(Part -22):2004			Gas Chromatography IS 5182 (Part-11):2006	Solvent Extraction IS 5182 (Part-12):2004

*M. Parida*  
Prepared by



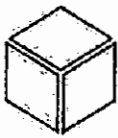
*Pooja Mishra*  
Verified by



Plot No.-M-22&23, Chandaka Industrial Estate, Patia, Bhubaneswar-751024, Dist-Khurda, Odisha Tel.: 7752017905

E-mail : visiontek@vcspl.org, visiontekin@gmail.com, visiontekin@yahoo.co.in, Visit us at: www.vcspl.org

Committed For Better Environment



# Visiontek Consultancy Services Pvt. Ltd.

(An Enviro Engineering Consulting Cell)



ISO 9001:2008  
ISO 14001:2015  
OHSAS 45001:2018

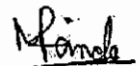
Ref: Envlab/19/R-7667

Date : 04.02.2020

## AMBIENT AIR QUALITY MONITORING REPORT FOR JANUARY-2020

Client Name & Address	M/s The Dhamra Port Company Limited, Dosinga, Bhadrak, Odisha
Work Order No.	4800044480, Date 18.07.2019
Reference No.	Envlab/19/R-7667
Type of Sample	Ambient Air Sample
Sampling Location	AAQMS-4: Dosinga Village
Sampling Done by	Mr. Samyashree Nayak
Sampling Duration	24hrs
Monitoring Instrument	RDS (APM 460), FPS (APM 550) Envirotech, CO Analyzer, VOC Sampler

Date	PARAMETERS											
	PM <sub>10</sub> (µg/m <sup>3</sup> )	PM <sub>2.5</sub> (µg/m <sup>3</sup> )	SO <sub>2</sub> (µg/m <sup>3</sup> )	NO <sub>x</sub> (µg/m <sup>3</sup> )	CO (mg/m <sup>3</sup> )	NH <sub>3</sub> (µg/m <sup>3</sup> )	O <sub>3</sub> (µg/m <sup>3</sup> )	Pb (µg/m <sup>3</sup> )	Ni (ng/m <sup>3</sup> )	As (ng/m <sup>3</sup> )	C <sub>6</sub> H <sub>6</sub> (µg/m <sup>3</sup> )	BaP (ng/m <sup>3</sup> )
03.01.2020	70.0	37.5	14.7	20.1	1.15	23.0	6.2	0.011	BDL	BDL	BDL	BDL
07.01.2020	68.1	35.0	13.5	18.6	1.15	22.4	6.6	0.014	BDL	BDL	BDL	BDL
10.01.2020	65.0	34.0	14.1	19.2	1.15	22.7	7.3	0.008	BDL	BDL	BDL	BDL
14.01.2020	68.0	36.0	16.2	21.5	1.15	24.1	6.1	0.012	BDL	BDL	BDL	BDL
17.01.2020	69.1	38.0	15.5	19.8	1.15	23.5	5.7	0.014	BDL	BDL	BDL	BDL
21.01.2020	72.0	39.0	13.8	17.4	1.15	21.8	6.4	0.012	BDL	BDL	BDL	BDL
24.01.2020	65.2	33.0	14.6	18.7	1.15	22.3	6.8	0.015	BDL	BDL	BDL	BDL
28.01.2020	67.0	35.0	14.1	19.3	1.15	24.2	6.5	0.012	BDL	BDL	BDL	BDL
Monthly Average	68.1	35.9	14.6	19.3	1.15	23.0	6.5	0.012	BDL	BDL	BDL	BDL
CPCB, New Delhi AAQ Standard	100	60	80	80	100	4	400	1	20	6	5	1
TEST METHOD	Gravimetric IS 5182: Part 23	Gravimetric EPA 1998	Improved Wes & Geake Method IS 5182 (Part-2) RA2017	Modified Jacob & Hochheiser Method IS 5182 (Part-6) RA2017	Non Dispersive Infrared Method IS 5182 (Part-10):1999	Indo Phenol Blue Method Air Sampling, 3rd Edn. By James P. Lodge (Method-401)	Chemical Method Air Sampling, 3rd Edn. By James P. Lodge (Method-411)	AAS Method IS 5182(Part-22):2004			Gas Chromatography IS 5182 (Part-11):2006	Solvent Extraction IS 5182 (Part-12):2004

  
Prepared by



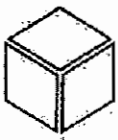
  
Verified by



Plot No.-M-22&23, Chandaka Industrial Estate, Patia, Bhubaneswar-751024, Dist-Khurda, Odisha Tel.: 7752017905

E-mail : visiontek@vcspl.org, visiontekin@gmail.com, visiontekin@yahoo.co.in, Visit us at: www.vcspl.org

Committed For Better Environment



# Visiontek Consultancy Services Pvt. Ltd.

(An Enviro Engineering Consulting Cell)



ISO 9001 : 2008

ISO 14001: 2015

OHSAS 45001: 2018

Ref: Envlab/19/R-7668

Date : 04.02.2020

## AMBIENT AIR QUALITY MONITORING REPORT FOR JANUARY-2020

Client Name & Address	M/s The Dhamra Port Company Limited, Dosinga, Bhadrak, Odisha
Work Order No.	4800044480, Date 18.07.2019
Reference No.	Envlab/19/R-7668
Type of Sample	Ambient Air Sample
Sampling Location	AAQMS-5: Kanak Prasad Village
Sampling Done by	Mr. Samyashree Nayak
Sampling Duration	24hrs
Monitoring Instrument	RDS (APM 460), FPS (APM 550) Envirotech, CO Analyzer, VOC Sampler

Date	PARAMETERS											
	PM <sub>10</sub> (µg/m <sup>3</sup> )	PM <sub>2.5</sub> (µg/m <sup>3</sup> )	SO <sub>2</sub> (µg/m <sup>3</sup> )	NO <sub>x</sub> (µg/m <sup>3</sup> )	CO (mg/m <sup>3</sup> )	NH <sub>3</sub> (µg/m <sup>3</sup> )	O <sub>3</sub> (µg/m <sup>3</sup> )	Pb (µg/m <sup>3</sup> )	Ni (ng/m <sup>3</sup> )	As (ng/m <sup>3</sup> )	C <sub>6</sub> H <sub>6</sub> (µg/m <sup>3</sup> )	BaP (ng/m <sup>3</sup> )
03.01.2020	57.0	29.6	9.1	15.2	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
07.01.2020	61.0	32.4	8.6	14.8	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
10.01.2020	64.0	33.8	8.9	15.6	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
14.01.2020	55.0	28.7	9.4	16.8	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
17.01.2020	60.0	32.3	7.7	16.3	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
21.01.2020	67.0	35.4	9.0	17.8	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
24.01.2020	61.0	33.0	8.8	15.7	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
28.01.2020	56.0	30.2	7.9	15.3	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Monthly Average	60.1	31.9	8.7	15.9	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
CPCB, New Delhi AAQ Standard	100	60	80	80	100	4	400	1	20	6	5	1
TEST METHOD	Gravimetric IS 5182: Part 23	Gravimetric EPA 1998	Improved Wes & Geake Method IS 5182 (Part-2) RA2017	Modified Jacob & Hochheiser Method IS 5182 (Part-6) RA2017	Non Dispersive Infrared Method IS 5182 (Part-10):1999	Indo Phenol Blue Method Air Sampling, 3rd Edn. By James P. Lodge (Method-401)	Chemical Method Air Sampling, 3rd Edn. By James P. Lodge (Method-411)	AAS Method IS 5182(Part-22):2004			Gas Chromatography IS 5182 (Part-11):2006	Solvent Extraction IS 5182 (Part-12):2004

*M. Farid*

Prepared by



*Pooja Mishra*

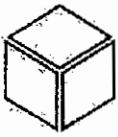
Verified by



Plot No.-M-22&23, Chandaka Industrial Estate, Patia, Bhubaneswar-751024, Dist-Khurda, Odisha Tel.: 7752017905

E-mail : visiontek@vcspl.org, visiontekin@gmail.com, visiontekin@yahoo.co.in, Visit us at: www.vcspl.org

Committed For Better Environment



# Visiontek Consultancy Services Pvt. Ltd.

(An Enviro Engineering Consulting Cell)



ISO 9001 : 2008  
ISO 14001: 2015  
OHSAS 45001: 2018

Ref: Envlab/19/R-7669

Date : 04.02.2020

## AMBIENT AIR QUALITY MONITORING REPORT FOR JANUARY-2020

Client Name & Address	M/s The Dhamra Port Company Limited, Dosinga, Bhadrak, Odisha
Work Order No.	4800044480, Date 18.07.2019
Reference No.	Envlab/19/R-7669
Type of Sample	Ambient Air Sample
Sampling Location	AAQMS-6: Eco Sensitive zone (Near Bhitarkanika)
Sampling Done by	Mr. Samyashree Nayak
Sampling Duration	24hrs
Monitoring Instrument	RDS (APM 460), FPS (APM 550) Envirotech, CO Analyzer, VOC Sampler

Date	PARAMETERS											
	PM <sub>10</sub> (µg/m <sup>3</sup> )	PM <sub>2.5</sub> (µg/m <sup>3</sup> )	SO <sub>2</sub> (µg/m <sup>3</sup> )	NO <sub>x</sub> (µg/m <sup>3</sup> )	CO (mg/m <sup>3</sup> )	NH <sub>3</sub> (µg/m <sup>3</sup> )	O <sub>3</sub> (µg/m <sup>3</sup> )	Pb (µg/m <sup>3</sup> )	Ni (ng/m <sup>3</sup> )	As (ng/m <sup>3</sup> )	C <sub>6</sub> H <sub>6</sub> (µg/m <sup>3</sup> )	BaP (ng/m <sup>3</sup> )
03.01.2020	46.0	24.3	4.9	10.6	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
07.01.2020	52.0	27.5	5.4	11.3	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
10.01.2020	49.0	26.0	5.2	10.7	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
14.01.2020	54.0	28.7	5.7	10.5	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
17.01.2020	51.0	27.3	5.5	11.8	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
21.01.2020	44.0	23.6	6.1	12.3	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
24.01.2020	50.0	25.8	5.8	11.5	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
28.01.2020	46.0	24.3	5.4	11.2	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Monthly Average	49.0	25.9	5.5	11.2	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
CPCB, New Delhi AAQ Standard	100	60	80	80	100	4	400	1	20	6	5	1
TEST METHOD	Gravimetric IS 5182: Part 23	Gravimetric EPA 1998	Improved Wes & Geake Method IS 5182 (Part-2) RA2017	Modified Jacob & Hochheiser Method IS 5182 (Part-6) RA2017	Non Dispersive Infrared Method IS 5182 (Part-10):1999	Indo Phenol Blue Method Air Sampling, 3rd Edn. By James P. Lodge (Method-401)	Chemical Method Air Sampling, 3rd Edn. By James P. Lodge (Method-411)	AAS Method IS 5182(Part -22):2004			Gas Chromatography IS 5182 (Part-11):2006	Solvent Extraction IS 5182 (Part-12):2004

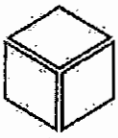
*M. Panda*  
Prepared by



*Pooja Mishra*  
Verified by







# Visiontek Consultancy Services Pvt. Ltd.

(An Enviro Engineering Consulting Cell)



ISO 9001 : 2008

ISO 14001 : 2015

OHSAS 45001 : 2018

Ref: Envlab/19/R-7670

Date : 04.02.2020

## NOISE QUALITY ANALYSIS REPORT FOR JANUARY-2020

Client Name & Address	M/s The Dhamra Port Company Limited, Dosinga, Bhadrak, Odisha
Work Order No.	4800044480, Date 18.07.2019
Analysis No.	Envlab/19/R-7670
Type of Sample	Noise Sample
Sampling Done by	Mr. Samyashree Nayak

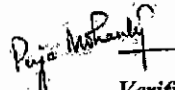

Sl. No.	Date of Monitoring	Location	NL Day Time dB(A)			NL Night Time dB(A)		
			MAX	MIN	AVG.	MAX	MIN	AVG.
1	11.01.2020	Near Jetty (I)	72.6	69.0	70.8	67.2	61.0	64.1
2	08.01.2020	Near BMH (I)	68.0	55.0	61.5	60.0	51.0	55.5
3	04.01.2020	Near Colony (R)	50.1	46.0	48.1	40.2	36.0	38.1
4	15.01.2020	Dosinga Village (R)	52.0	48.0	50.0	41.0	37.0	39.0
5	18.01.2020	Kanak Prasad Village(R)	53.4	49.7	51.6	41.7	40.0	40.9
6	11.01.2020	Eco Sensitive Zone	46.0	40.0	43.0	35.9	32.6	34.3

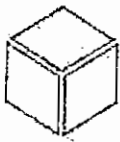
\*NL- Noise Level, I- Industrial, R-Residential

### National Standard of Noise Level

Area Code	Category of Area/ Zone	Permissible Limit in dB(A)	
		Day Time	Night Time
A	Industrial Area	75	70
B	Commercial Area	65	55
C	Residential Area	55	45
D	Silence Zone	50	40

Prepared by   


Verified by   




Ref: Envlab/19/R-7671

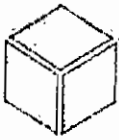
Date: 04.02.2020

**WATER QUALITY REPORT JANUARY-2020**

Client Name & Address	M/s The Dhamra Port Company Limited, Dosinga, Bhadrak, Odisha
Work Order No.	4800044480, Date 13.07.2019
Reference No.	Envlab/19/R-7671
Type of Sample	Waste Water Sample
Sampling Location	WW-1: 140 KLD STP Inlet; WW-2: 140 KLD STP Outlet
Date of Sampling	11.01.2020
Date of Analysis	13.01.2020 to 16.01.2020
Sampling Done by	Mr. Samyashree Nayak

SL. No.	Name of the Parameters	Unit	Testing Method	As per CTO	Analysis Result	
					WW- 1	WW-2
1	pH	-	APIA 4500H.B	6.0-9.0	7.06	7.32
2	Color	Hazen	APHA 2120 B/C	-	Blackish	CL
3	Odour	-	APHA 2150 B	-	Pungent Smell	U/O
4	Appearance	-	APHA 2110	-	Turbid	Clear
5	Total Suspended Solids	mg/l	APHA 2540 D	<20	132	6
6	Biochemical Oxygen Demand as BOD (3 days at 27°C)	mg/l	APHA 5210 B	<10	85	7
7	Chemical Oxygen Demand (COD)	mg/l	APHA 5220 C	<50	268	30
8	Oil & Grease	mg/l	APIA 5520 B	≤10	15.4	2.8
9	Ammonical Nitrogen as NH <sub>3</sub> -N	mg/l	APHA 4500 NH <sub>3</sub> -N	<5	13.4	3.84
10	Total Nitrogen	mg/l	Calculation	<10	17.5	7.90
11	Feacal Coliform	MPN/100ml	APIA 9221 E	<100	280	70





Ref: Envlab/19/R-7672

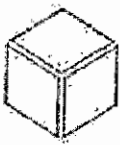
Date: 04.02.2020

## WATER QUALITY REPORT JANUARY-2020

Client Name & Address	M/s The Dhamra Port Company Limited, Dosinga, Bhadrak, Odisha
Work Order No.	4800044480; Date 13.07.2019
Reference No.	Envlab/19/R-7672
Type of Sample	Waste Water Sample
Sampling Location	WW-1: 140 KLD STP Inlet; WW-2: 140 KLD STP Outlet
Date of Sampling	21.01.2020
Date of Analysis	22.01.2020 to 27.01.2020
Sampling Done by	Mr. Samyashree Nayak.

SL. No.	Name of the Parameters	Unit	Testing Method	As per CTO	Analysis Result	
					WW-1	WW-2
1	pH	-	APHA 45001 B	6.0 - 9.0	7.23	7.42
2	Color	Hazen	APHA 2120 B,C	-	Blackish	CL
3	Odour	-	APHA 2150 B	-	Pungent Smell	UO
4	Appearance	-	APHA 2110	-	Turbid	Clear
5	Total Suspended Solids	mg/l	APHA 2540 D	<20	141	8
6	Biochemical Oxygen Demand as BOD (3 days at 27°C)	mg/l	APHA 5210 B	<10	89	9
7	Chemical Oxygen Demand (COD)	mg/l	APHA 5220 C	<50	276	36
8	Oil & Grease	mg/l	APHA 5520 B	<10	14.6	3.0
9	Ammonical Nitrogen as NH <sub>3</sub> -N	mg/l	APHA 4500 NH <sub>3</sub> F	<5	12.7	4.0
10	Total Nitrogen	mg/l	Calculation	<10	19.74	8.9
11	Faecal Coliform	MPN/100ml	APHA 9221 E	<100	280	79





Ref: Envlab/19/R-7673

Date: 04.02.2020

## WATER QUALITY REPORT JANUARY-2020

Client Name & Address	M/s The Dhamra Port Company Limited, Dosinga, Bhadrak, Odisha
Work Order No.	4800044480, Date 18.07.2019
Reference No.	Envlab/19/R-7673
Type of Sample	Waste Water Sample
Sampling Location	WW-1: 15 KLD STP Inlet; WW-2: 15 KLD STP Outlet
Date of Sampling	11.01.2020
Date of Analysis	13.01.2020 to 16.01.2020
Sampling Done by	Mr. Samyashree Nayak

Sl. No.	Name of the Parameters	Unit	Testing Method	As per CTO	Analysis Result	
					WW-1	WW-2
1	pH	-	APHA 45001 B	6.0 - 9.0	7.11	7.37
2	Color	Plazen	APHA 2120 B,C	-	Blackish	CL
3	Odour	-	APHA 2150 B	-	Pungent Smell	U/O
4	Appearance	-	APHA 2110	-	Turbid	Clear
5	Total Suspended Solids	mg/l	APHA 2540 D	<20	125	6
6	Biochemical Oxygen Demand as BOD (3 days at 27°C)	mg/l	APHA 5210 B	<10	43	6.6
7	Chemical Oxygen Demand (COD)	mg/l	APHA 5220 C	<50	148	24
8	Oil & Grease	mg/l	APHA 5520 B	<10	5.8	ND
9	Ammonical Nitrogen as NH <sub>4</sub> -N	mg/l	APHA 4500 N1, F	<5	11.6	2.48
10	Total Nitrogen	mg/l	Calculation	<10	14.75	3.82
11	Faecal Coliform	MPN/100ml	APHA 9221 E	<100	240	58





# Visiontek Consultancy Services Pvt. Ltd.

(An Enviro Engineering Consulting Cell)



ISO 9001 2008

ISO 14001 2015

OHSAS 18001 2007

Ref: Envlab/19/R-7674

Date: 04.02.2020

## WATER QUALITY REPORT JANUARY-2020

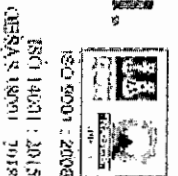
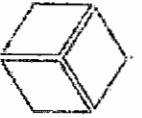
Client Name & Address	M/s The Dhamra Port Company Limited, Dosinga, Bhadrak, Odisha
Work Order No.	4800044480, Date 18.07.2019
Reference No.	Envlab/19/R-7674
Type of Sample	Waste Water Sample
Sampling Location	WW-1: 15 KLD STP Inlet; WW-2: 15 KLD STP Outlet
Date of Sampling	21.01.2020
Date of Analysis	22.01.2020 to 27.01.2020
Sampling Done by	Mr. Samyashree Nayak

SL. No.	Name of the Parameters	Unit	Testing Method	As per CTO	Analysis Result	
					WW-1	WW-2
1	pH	-	APHA 4500H <sub>T</sub> B	6.0 - 9.0	7.06	7.25
2	Color	Hazen	APHA 2120 B/C	-	Blackish	CL
3	Odour	-	APHA 2150 B	-	Pungent Smell	U/O
4	Appearance	-	APHA 2110	-	Turbid	Clear
5	Total Suspended Solids	mg/l	APHA 2540 D	<20	119	4
6	Biochemical Oxygen Demand as BOD (3 days at 27°C)	mg/l	APHA 5210 B	<10	47	7
7	Chemical Oxygen Demand (COD)	mg/l	APHA 5220 C	<50	166	32
8	Oil & Grease	mg/l	APHA 5520 B	<10	6.0	ND
9	Ammonical Nitrogen as NH <sub>3</sub> -N	mg/l	APHA 4500 NH <sub>3</sub> F	<5	13.2	2.66
10	Total Nitrogen	mg/l	Calculation	<10	15.6	3.25
11	Faecal Coliform	MPN/100ml	APHA 9221 E	<100	210	49



Plot No.-M-22&23, Chandaka Industrial Estate, Patia, Bhubaneswar-751024, Dist-Khurda, Odisha Tel.: 7752017905

E-mail : visiontek@vcspl.org, visiontek@gmail.com, visiontek@yahoo.co.in, Visit us at: www.vcspl.org



## AMBIENT AIR QUALITY MONITORING REPORT FOR FEBRUARY-2020

Ref: Envlab/1-R-8202

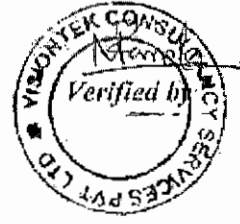
Date : 04.03.2020

Client Name & Address	M/s The Dhamra Port Company Limited, Dosinga, Bhadrak, Odisha
Work Order No.	4800044480, Date 18.07.2019
Reference No.	Envlab/19/R-8202
Type of Sample	Ambient Air Sample
Sampling Location	AAQMS-1: Colony Area
Sampling Done by	Mr. Samyashree Nayak
Sampling Duration	24hrs
Monitoring Instrument	RDS (APM 460), FPS (APM 550) Envirotech, CO Analyzer, VOC Sampler

Date	PARAMETERS											
	PM <sub>10</sub> (µg/m <sup>3</sup> )	PM <sub>2.5</sub> (µg/m <sup>3</sup> )	SO <sub>2</sub> (µg/m <sup>3</sup> )	NO <sub>x</sub> (µg/m <sup>3</sup> )	CO (mg/m <sup>3</sup> )	NH <sub>3</sub> (µg/m <sup>3</sup> )	O <sub>3</sub> (µg/m <sup>3</sup> )	Pb (µg/m <sup>3</sup> )	Ni (ng/m <sup>3</sup> )	As (ng/m <sup>3</sup> )	Benzene (µg/m <sup>3</sup> )	BaP (ng/m <sup>3</sup> )
03.02.2020	57.0	30.0	12.2	15.5	1.15	22.3	6.6	BDL	BDL	BDL	BDL	BDL
06.02.2020	61.0	31.7	11.5	14.9	1.15	21.5	6.2	BDL	BDL	BDL	BDL	BDL
10.02.2020	60.0	29.8	11.8	14.4	1.15	23.1	5.7	BDL	BDL	BDL	BDL	BDL
13.02.2020	59.0	30.0	10.7	14.7	1.15	21.8	7.2	BDL	BDL	BDL	BDL	BDL
17.02.2020	65.0	34.0	12.1	15.6	1.15	22.6	6.3	BDL	BDL	BDL	BDL	BDL
20.02.2020	62.0	31.0	13.4	17.2	1.15	22.3	6.7	BDL	BDL	BDL	BDL	BDL
24.02.2020	66.0	33.0	9.7	13.7	1.15	21.5	5.8	BDL	BDL	BDL	BDL	BDL
27.02.2020	58.0	32.1	10.6	16.3	1.15	22.7	6.3	BDL	BDL	BDL	BDL	BDL
Monthly Average	61.0	31.5	11.5	15.3	1.15	22.2	6.4	BDL	BDL	BDL	BDL	BDL
NAAQ Standard	100	60	80	80	4	400	100	1	20	6	5	1
TEST METHOD	Gravimetric IS 5182: Part 13	Gravimetric EPA 1999	Improved West & Grahe Method IS 5182 (Part-2) RA2017	Modified Jacob & Hoehhelter Method IS 5182 (Part-6) RA2017	Non-Dispersive Infrared Method IS 5182 (Part-10):1999	Indo Phenol Blue Method Air Sampling, 3rd Edn. By James P. Lodge (Method-101)	Chemical Method Air Sampling, 3rd Edn. By James P. Lodge (Method-411)	AAS Method IS 5182 (Part-12):2004			Gas Chromatography IS 5182 (Part-11):2006	Solvent Extraction IS 5182 (Part-12):2004

N.B- \*NAAQ- National Ambient Air Quality Standard as per 18<sup>th</sup> Nov. 2009 Gatt. Notification

BDL Values: SO<sub>2</sub> < 4 µg/m<sup>3</sup>, NO<sub>x</sub> < 9 µg/m<sup>3</sup>, O<sub>3</sub> < 4 µg/m<sup>3</sup>, NH<sub>3</sub> < 20 µg/m<sup>3</sup>, Ni < 0.01 ng/m<sup>3</sup>, As < 0.001 ng/m<sup>3</sup>, C<sub>6</sub>H<sub>6</sub> < 0.001 µg/m<sup>3</sup>, BaP < 0.002 ng/m<sup>3</sup>, Pb < 0.001 µg/m<sup>3</sup>, CO < 0.1 mg/m<sup>3</sup>





Ref: Envlab/19-R-8203

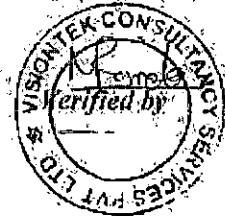
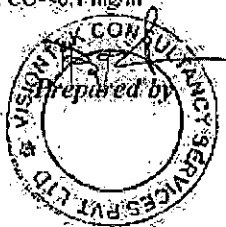
Date: 04/03/2020

**AMBIENT AIR QUALITY MONITORING REPORT FOR FEBRUARY-2020**

Client Name & Address	M/s The Dhamra Port Company Limited, Dosinga, Bhadrak, Odisha
Work Order No.	4800044480, Date 18.07.2019
Reference No.	Envlab/19/R-8203
Type of Sample	Ambient Air Sample
Sampling Location	AAQMS-2: Near BMH-1
Sampling Done by	Mr. Samyashree Nayak
Sampling Duration	24hrs
Monitoring Instrument	RDS (APM-460), FPS (APM-550) Envirotech, CO Analyzer, VOC Sampler

Date	PARAMETERS											
	PM <sub>10</sub> (µg/m <sup>3</sup> )	PM <sub>2.5</sub> (µg/m <sup>3</sup> )	SO <sub>2</sub> (µg/m <sup>3</sup> )	NO <sub>x</sub> (µg/m <sup>3</sup> )	CO (mg/m <sup>3</sup> )	NH <sub>3</sub> (µg/m <sup>3</sup> )	O <sub>3</sub> (µg/m <sup>3</sup> )	Pb (µg/m <sup>3</sup> )	Ni (ng/m <sup>3</sup> )	As (ng/m <sup>3</sup> )	Benzene (µg/m <sup>3</sup> )	BaP (ng/m <sup>3</sup> )
03.02.2020	66.0	34.0	14.5	16.4	1.15	22.4	6.8	BDL	BDL	BDL	BDL	BDL
06.02.2020	69.0	38.0	13.8	15.8	1.15	20.7	7.1	BDL	BDL	BDL	BDL	BDL
10.02.2020	62.0	30.0	14.1	17.3	1.15	21.6	7.5	BDL	BDL	BDL	BDL	BDL
13.02.2020	67.0	34.0	12.7	15.7	1.15	24.2	6.6	BDL	BDL	BDL	BDL	BDL
17.02.2020	59.0	31.0	15.2	17.7	1.15	22.7	7.2	BDL	BDL	BDL	BDL	BDL
20.02.2020	72.0	39.0	14.6	18.3	1.15	23.5	7.8	BDL	BDL	BDL	BDL	BDL
24.02.2020	73.0	41.3	12.5	15.2	1.15	21.3	7.1	BDL	BDL	BDL	BDL	BDL
27.02.2020	65.0	35.0	15.3	18.6	1.15	22.7	8.5	BDL	BDL	BDL	BDL	BDL
Monthly Average	66.6	35.3	14.0	16.9	1.15	22.4	7.3	BDL	BDL	BDL	BDL	BDL
NAAQ Standard	100	60	80	80	4	400	100	1	20	6	5	1
TEST METHOD	Gravimetric IS 5182 Part 23	Gravimetric EPA 1998	Improved West G. Gaeke Method IS 5182 (Part-2) RA2017	Modified Jacob & Hoeljelser Method IS 5182 (Part-6) RA2017	Non Dispersive Infrared Method IS 5182 (Part-10) 1999	Indo Photo Blue Method Air Sampling 3rd Edn. By James P. Lodge (Method-40)	Chemical Method Air Sampling 3rd Edn. By James P. Lodge (Method-11)	AAS Method IS 5182 (Part-22) 2004			Gas Chromatography IS 5182 (Part-11) 2006	Solvent Extraction IS 5182 (Part-12) 2004

N.B: \*NAAQ: National Ambient Air Quality Standard as per 18<sup>th</sup> Nov. 2009 Govt. Notification  
 BDL Values: SO<sub>2</sub> < 4 µg/m<sup>3</sup>, NO<sub>x</sub> < 9 µg/m<sup>3</sup>, O<sub>3</sub> < 4 µg/m<sup>3</sup>, NH<sub>3</sub> < 20 µg/m<sup>3</sup>, Ni < 0.01 ng/m<sup>3</sup>, As < 0.001 ng/m<sup>3</sup>, C<sub>6</sub>H<sub>6</sub> < 0.001 µg/m<sup>3</sup>, BaP < 0.002 ng/m<sup>3</sup>, Pb < 0.001 µg/m<sup>3</sup>, CO < 0.1 mg/m<sup>3</sup>



Phone No: 92-8023 (Chandika Industrial Estate, Bhubaneswar, Bhubaneswar-751024, Dist. Khurda, Odisha, India, Tel: 775011601)  
 Email: visiontek@vcspl.org, visiontek@gmail.com, visiontekindia@yahoo.com, Visit us at: www.vcspl.org  
 Copyright For: After Examination





**AMBIENT AIR QUALITY MONITORING REPORT FOR FEBRUARY-2020**

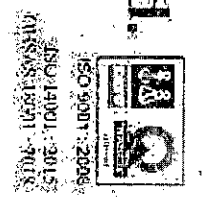
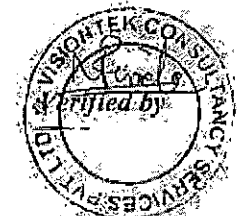
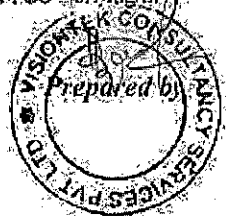
<b>Client Name &amp; Address</b>	M/s The Dhamra Port Company Limited, Dosinga, Bhadrak, Odisha.
<b>Work Order No.</b>	4800044480, Date 18/07/2019
<b>Reference No.</b>	Envlab/19/R-8204
<b>Type of Sample</b>	Ambient Air Sample
<b>Sampling Location</b>	AAQMS-3: Near Jetty
<b>Sampling Done by</b>	Mr. Samyashree Nayak
<b>Sampling Duration</b>	24hrs
<b>Monitoring Instrument</b>	RDS (APM-460), FPS (APM-550) Envirotech, CO Analyzer, VOC Sampler

Ref: Envlab/19/R-8204

Date	PARAMETERS											
	PM <sub>10</sub> (µg/m <sup>3</sup> )	PM <sub>2.5</sub> (µg/m <sup>3</sup> )	SO <sub>2</sub> (µg/m <sup>3</sup> )	NO <sub>x</sub> (µg/m <sup>3</sup> )	CO (µg/m <sup>3</sup> )	NH <sub>3</sub> (µg/m <sup>3</sup> )	O <sub>3</sub> (µg/m <sup>3</sup> )	Pb (µg/m <sup>3</sup> )	Ni (ng/m <sup>3</sup> )	As (ng/m <sup>3</sup> )	Benzene (µg/m <sup>3</sup> )	BaP (ng/m <sup>3</sup> )
03.02.2020	88.0	43.0	30.7	41.5	3.44	25.7	12.2	0.023	BDL	BDL	BDL	BDL
06.02.2020	85.0	45.0	28.6	39.7	2.29	24.4	11.6	0.019	BDL	BDL	BDL	BDL
10.02.2020	90.0	46.0	29.2	43.2	3.44	27.1	12.5	0.024	BDL	BDL	BDL	BDL
13.02.2020	86.0	43.0	31.4	42.5	3.44	26.8	13.1	0.022	BDL	BDL	BDL	BDL
17.02.2020	81.0	41.0	32.6	40.8	2.86	25.7	12.7	0.027	BDL	BDL	BDL	BDL
20.02.2020	89.0	44.0	30.3	39.6	2.86	25.2	13.3	0.024	BDL	BDL	BDL	BDL
24.02.2020	91.0	46.0	28.8	37.5	2.29	23.8	11.5	0.020	BDL	BDL	BDL	BDL
27.02.2020	84.0	40.0	27.4	40.2	2.29	25.4	12.4	0.022	BDL	BDL	BDL	BDL
Monthly Average	86.8	43.5	29.9	40.6	2.86	25.5	12.4	0.023	BDL	BDL	BDL	BDL
NAAQ Standard	100	60	80	80	4	400	100	1	20	6	5	1
TEST METHOD:	Gravimetric IS 5182 (Part-2)	Gravimetric EPA-1994	Improved West & Gaeke Method IS 5182 (Part-2) RA2017	Modified Jacob & Hochheiser Method IS 5182 (Part-6) RA2017	Non Dispersive Infrared Method IS 5182 (Part-19) 1999	Indo Phenol Blue Method Air Sampling 3rd Edn. By James P. Lodge (Method-401)	Chemical Method Air Sampling 3rd Edn. By James P. Lodge (Method-311)	AAS Method IS 5182 (Part-22) 2004			Gas Chromatography IS 5182 (Part-11) 2004	Solvent Extraction IS 5182 (Part-13) 2004

Date: 08/03/2020

N.B: \*NAAQ: National Ambient Air Quality Standard as per 18<sup>th</sup> Nov, 2009 Govt. Notification.  
 BDL Values: SO<sub>2</sub> < 4 µg/m<sup>3</sup>, NO<sub>x</sub> < 9 µg/m<sup>3</sup>, O<sub>3</sub> < 4 µg/m<sup>3</sup>, NH<sub>3</sub> < 20 µg/m<sup>3</sup>, Ni < 0.01 ng/m<sup>3</sup>, As < 0.001 ng/m<sup>3</sup>, C<sub>6</sub>H<sub>6</sub> < 0.001 µg/m<sup>3</sup>, BaP < 0.002 ng/m<sup>3</sup>, Pb < 0.001 µg/m<sup>3</sup>, CO < 0.1 mg/m<sup>3</sup>



Plot No. A/17/2/2, Chandra Industrial Estate, Plot, Bhadrak Road-751004, Bhubaneswar, Odisha, India. 751004  
 E-mail: visiontek@visiontek.com, visiontek@gmail.com, visiontekinfo@visiontek.com, Visit us at: www.visiontek.com  
 Committed For Better Environment



Ref: Env/HT/JR-8295

Date: 04.03.2020

**AMBIENT AIR QUALITY MONITORING REPORT FOR FEBRUARY-2020**

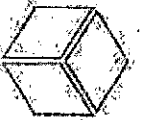
<b>Client Name &amp; Address</b>	M/s.The Dhamra Port Company Limited, Dosinga, Bhadrak, Odisha
<b>Work Order No.</b>	4800044480, Date:18.07.2019
<b>Reference No.</b>	Envlab/19/R-8205
<b>Type of Sample</b>	Ambient Air Sample
<b>Sampling Location</b>	AAQMS-4: Dosinga Village
<b>Sampling Done by</b>	Mr. Samyashree Nayak
<b>Sampling Duration</b>	24hrs
<b>Monitoring Instrument</b>	RDS (APM 460), FPS (APM 550) Envirotech, CO Analyzer, VOC Sampler

Date	PARAMETERS											
	PM <sub>10</sub> (µg/m <sup>3</sup> )	PM <sub>2.5</sub> (µg/m <sup>3</sup> )	SO <sub>2</sub> (µg/m <sup>3</sup> )	NO <sub>x</sub> (µg/m <sup>3</sup> )	CO (µg/m <sup>3</sup> )	NH <sub>3</sub> (µg/m <sup>3</sup> )	O <sub>3</sub> (µg/m <sup>3</sup> )	Pb (µg/m <sup>3</sup> )	Ni (ng/m <sup>3</sup> )	As (ng/m <sup>3</sup> )	Benzene (µg/m <sup>3</sup> )	BaP (ng/m <sup>3</sup> )
03.02.2020	70.0	36.0	15.3	18.7	1.15	22.6	5.8	0.016	BDL	BDL	BDL	BDL
06.02.2020	73.0	39.7	14.8	20.1	1.15	21.3	6.1	0.013	BDL	BDL	BDL	BDL
10.02.2020	68.0	35.0	16.3	21.4	1.15	23.0	5.7	0.015	BDL	BDL	BDL	BDL
13.02.2020	72.0	37.0	14.6	19.7	1.15	22.7	6.5	0.012	BDL	BDL	BDL	BDL
17.02.2020	67.0	36.8	13.5	18.3	1.15	22.4	6.2	0.015	BDL	BDL	BDL	BDL
20.02.2020	74.0	39.0	14.7	18.8	1.15	23.2	7.0	0.013	BDL	BDL	BDL	BDL
24.02.2020	65.0	35.7	13.5	19.2	1.15	21.8	6.7	0.011	BDL	BDL	BDL	BDL
27.02.2020	69.0	37.8	14.4	19.7	1.15	22.7	6.3	0.013	BDL	BDL	BDL	BDL
<b>Monthly Average</b>	69.8	37.1	14.6	19.5	1.15	22.5	6.3	0.014	BDL	BDL	BDL	BDL
<b>NAAQ Standard</b>	100	60	80	80	4	400	100	1	20	6	5	1
<b>TEST METHOD</b>	Gravimetric IS 5182-Part 23	Gravimetric EPA 1998	Improved West & Gage Method IS 5182 (Part-2) RA2017	Modified Jacob & Hochheiser Method IS 5182 (Part-6) RA2017	Non Dispersive Infrared Method IS 5182 (Part-10) 1999	Indo Phenol Blue Method Air Sampling 3rd Edn. By James P. Lodge (Method-401)	Chemical Method Air Sampling 3rd Edn. By James P. Lodge (Method-411)	AAS Method IS 5182 (Part-22) 2004		Gas Chromatography IS 5182 (Part-11) 2004	Solvent Extraction IS 5182 (Part-12) 2004	

N.B. \*NAAQ- National Ambient Air Quality Standard as per IS<sup>th</sup> Nov. 2009 Gatt. Notification.  
 BDE Values: SO<sub>2</sub> < 4 µg/m<sup>3</sup>, NO<sub>x</sub> < 9 µg/m<sup>3</sup>, O<sub>3</sub> < 4 µg/m<sup>3</sup>, NH<sub>3</sub> < 20 µg/m<sup>3</sup>, Ni < 0.01 ng/m<sup>3</sup>, As < 0.001 ng/m<sup>3</sup>, C<sub>6</sub>H<sub>6</sub> < 0.001 µg/m<sup>3</sup>, BaP < 0.002 ng/m<sup>3</sup>, Pb < 0.001 µg/m<sup>3</sup>, CO < 0.1 mg/m<sup>3</sup>



Plot No. M/2273, Chhatrapati Industrial Estate, Path, Rajahmundry-521004, Dist: Khurda, Odisha, Tel: 775017905  
 Email: visiontek@vsnl.org, visiontekind@gmail.com, visiontekmyaliso.co.in, Visit us at: www.vsnl.org  
 (Innovative For Better Environment)



Ref: Enviro/19/R-8206

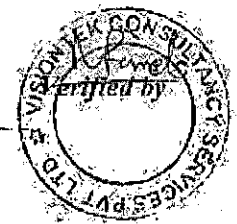
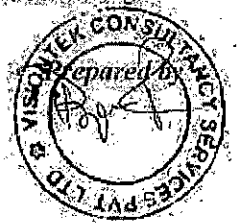
Date: 04.03.2020

**AMBIENT AIR QUALITY MONITORING REPORT FOR FEBRUARY-2020**

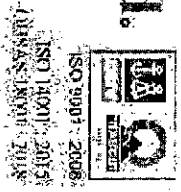
Client Name & Address	M/s The Dhamra Port Company Limited, Dosinga, Bhadrak, Odisha
Work Order No.	4800044480, Date: 18.07.2019
Reference No.	Envlab/19/R-8206
Type of Sample	Ambient Air Sample
Sampling Location	AAQMS-5: Kanak Prasad Village
Sampling Done by	Mr. Samyashree Nayak
Sampling Duration	24hrs
Monitoring Instrument	RDS (APM 460), FPS (APM 550) Envirotech, CO Analyzer, VOC Sampler

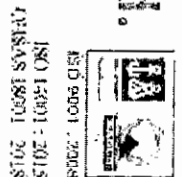
Date	PARAMETERS											
	PM <sub>10</sub> (µg/m <sup>3</sup> )	PM <sub>2.5</sub> (µg/m <sup>3</sup> )	SO <sub>2</sub> (µg/m <sup>3</sup> )	NO <sub>x</sub> (µg/m <sup>3</sup> )	CO (mg/m <sup>3</sup> )	NH <sub>3</sub> (µg/m <sup>3</sup> )	O <sub>3</sub> (µg/m <sup>3</sup> )	Pb (µg/m <sup>3</sup> )	Ni (ng/m <sup>3</sup> )	As (ng/m <sup>3</sup> )	Benzene (µg/m <sup>3</sup> )	BaP (ng/m <sup>3</sup> )
03.02.2020	63.0	34.3	8.8	14.6	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
06.02.2020	56.0	30.8	10.2	16.3	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
10.02.2020	61.0	33.2	9.3	15.2	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
13.02.2020	53.0	28.7	9.7	15.5	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
17.02.2020	58.0	31.5	8.6	14.7	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
20.02.2020	62.0	33.8	8.4	15.8	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
24.02.2020	54.0	29.6	7.8	14.3	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
27.02.2020	59.0	32.4	8.1	15.5	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Monthly Average	58.3	31.8	8.9	15.2	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
NAAQ Standard	100	60	80	80	4	400	100	1	20	6	5	1
TEST METHOD	Gravimetric IS 5182 Part 23	Gravimetric EPA 1999	Improved Weir & Cooke Method IS 5182 (Part-2) RA2017	Modified Jacob & Hochheiser Method IS 5182 (Part-6) RA2017	Non Dispersive Infra Red Method IS 5182 (Part-10) 1999	Indo Filtered Blue Method Air Sampling 3rd Edn. By James P. Lodge (Method-401)	Chemical Method Air Sampling 3rd Edn. By James P. Lodge (Method-411)	AAS Method IS 5152 (Part-22) 2004			Gas Chromatography IS 5182 (Part-11) 2006	Solvent Extraction IS 5182 (Part-12) 2004

N.B: \*NAAQ: National Ambient Air Quality Standard as per 18<sup>th</sup> Nov: 2009 Gait Notification  
 BDL Values: SO<sub>2</sub> < 4 µg/m<sup>3</sup>, NO<sub>x</sub> < 9 µg/m<sup>3</sup>, O<sub>3</sub> < 4 µg/m<sup>3</sup>, NH<sub>3</sub> < 20 µg/m<sup>3</sup>, Ni < 0.01 ng/m<sup>3</sup>, As < 0.001 µg/m<sup>3</sup>, C<sub>6</sub>H<sub>6</sub> < 0.001 µg/m<sup>3</sup>, BaP < 0.002 ng/m<sup>3</sup>, Pb < 0.001 µg/m<sup>3</sup>, CO < 0.1 mg/m<sup>3</sup>



Plot No. M/23/2015, Ghoshala Industrial Estate, Park Road, Bhubaneswar - 751024, Odisha, India. Phone: 9439177005  
 E-mail: visiontek@vsnl.com, visiontek@gmail.com, visiontek@alico.co.in, Visit us at: www.visiontek.com  
 Copyright © For All Rights Reserved





Ref: Envlab/1-R-8207

Date: 04.03.2020

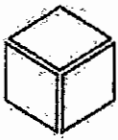
**AMBIENT AIR QUALITY MONITORING REPORT FOR FEBRUARY-2020**

Client Name & Address	M/s The Dhamra Port Company Limited, Dosinga, Bhadrak, Odisha
Work Order No.	4800044480, Date 18.07.2019
Reference No.	Envlab/19/R-8207
Type of Sample	Ambient Air Sample
Sampling Location	AAQMS-6: Eco Sensitive zone (Near Bhitarkanika)
Sampling Done by	Mr. Samyashree Nayak
Sampling Duration	24hrs.
Monitoring Instrument	RDS (APM 460), FPS (APM 550) Envirotech, CO Analyzer, VOC Sampler

Date	PARAMETERS											
	PM <sub>10</sub> (µg/m <sup>3</sup> )	PM <sub>2.5</sub> (µg/m <sup>3</sup> )	SO <sub>2</sub> (µg/m <sup>3</sup> )	NO <sub>x</sub> (µg/m <sup>3</sup> )	CO (mg/m <sup>3</sup> )	NH <sub>3</sub> (µg/m <sup>3</sup> )	O <sub>3</sub> (µg/m <sup>3</sup> )	Pb (µg/m <sup>3</sup> )	As (ng/m <sup>3</sup> )	Ni (ng/m <sup>3</sup> )	Benzene (µg/m <sup>3</sup> )	BaP (ng/m <sup>3</sup> )
03.02.2020	51.0	27.7	5.7	11.5	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
06.02.2020	48.0	26.2	5.3	11.1	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
10.02.2020	55.0	29.8	6.1	12.5	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
13.02.2020	50.0	27.3	5.6	10.8	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
17.02.2020	47.0	25.6	5.8	11.7	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
20.02.2020	52.0	28.5	6.4	12.6	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
24.02.2020	45.0	24.3	5.7	13.2	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
27.02.2020	49.0	26.6	5.5	11.8	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Monthly Average	49.6	27.0	5.8	11.9	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
NAAQ Standard	100	60	80	80	4	400	100	1	6	20	5	1
TEST METHOD	Gravimetric IS 5182: Part 23	Gravimetric EPA 1998	Improved West & Geake Method IS 5182 (Part- 2) RA2017	Modified Jacob & Hechelsler Method IS 5182 (Part-6) RA2017	Non Dispersive Infrared Method IS 5182 (Part-10):1999	Indo Phenol Blue Method Air Sampling , 3rd Edn. by James F. Lodge (Method-401)	Chemical Method Air Sampling, 3rd Edn. by James P. Lodge (Method-411)	AAS Method IS 5182(Part-22):2004			Gas Chromatogr aphy IS 5182 (Part- 11):2006	Solvent Extraction IS 5182 (Part- 12):2004

N.B.- \*NAAQ- National Ambient Air Quality Standard as per 18<sup>th</sup> Nov, 2009 Gatt. Notification  
BDL Values: SO<sub>2</sub><4 µg/m<sup>3</sup>, NO<sub>x</sub><9 µg/m<sup>3</sup>, O<sub>3</sub><4 µg/m<sup>3</sup>, NH<sub>3</sub><20 µg/m<sup>3</sup>, Ni<0.01 ng/m<sup>3</sup>, As <0.001 ng/m<sup>3</sup>, C<sub>6</sub>H<sub>6</sub><0.001 µg/m<sup>3</sup>, BaP<0.002 ng/m<sup>3</sup>, Pb<0.001 µg/m<sup>3</sup>, CO<0.1 mg/m<sup>3</sup>





# Visiontek Consultancy Services Pvt. Ltd.

(An Enviro Engineering Consulting Cell)



ISO 9001:2008

ISO 14001:2015

OHSAS 45001:2018

Ref: Envlab/19/R-8208

Date : 04.03.2020

## NOISE QUALITY ANALYSIS REPORT FOR FEBRUARY-2020

Client Name & Address	M/s The Dhamra Port Company Limited, Dosinga, Bhadrak, Odisha
Work Order No.	4800044480, Date 18.07.2019
Analysis No.	Envlab/19/R-8208
Type of Sample	Noise Sample
Sampling Done by	Mr. Samyashree Nayak

Sl. No.	Date of Monitoring	Location	NL Day Time dB(A)			NL Night Time dB(A)		
			MAX	MIN	AVG.	MAX	MIN	AVG.
1	11.02.2020	Near Jetty (I)	71.0	66.0	68.5	68.0	62.7	65.4
2	07.02.2020	Near BMH (I)	66.9	59.0	63.0	63.0	54.0	58.5
3	04.02.2020	Near Colony (R)	51.0	46.9	49.0	39.0	35.2	37.1
4	18.02.2020	Dosinga Village (R)	50.9	47.6	49.3	40.8	36.3	38.6
5	14.02.2020	Kanak Prasad Village(R)	51.7	47.0	49.4	41.9	39.0	40.5
6	21.02.2020	Eco Sensitive Zone	44.0	37.5	40.8	34.0	31.0	32.5

\*NL- Noise Level, I- Industrial, R-Residential

### National Standard of Noise Level

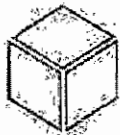
Area Code	Category of Area/ Zone	Permissible Limit in dB(A)	
		Day Time	Night Time
A	Industrial Area	75	70
B	Commercial Area	65	55
C	Residential Area	55	45
D	Silence Zone	50	40

*M. Panda*  
Prepared by



*Puja Mohanty*  
Verified by





Ref: Envlab/19/R-8209

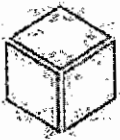
Date: 04.03.2020

## WATER QUALITY REPORT FEBRUARY-2020

Client Name & Address	M/s The Dhamra Port Company Limited, Dosinga, Bhadrak, Odisha.
Work Order No:	4800044480, Date 18.07.2019
Reference No:	Envlab/19/R-8209
Type of Sample	Waste Water Sample
Sampling Location	WW-1: 140 KLD STP Inlet; WW-2: 140 KLD STP Outlet
Date of Sampling	03.02.2020
Date of Analysis	04.02.2020 to 07.02.2020
Sampling Done by	Mr. Samyashree Nayak

Sl. No.	Name of the Parameters	Unit	Testing Method	As per CTO	Analysis Result	
					WW-1	WW-2
1	pH	-	APHA 4500H.B	6.0-9.0	7.11	7.54
2	Color	Hazen	APHA 2120 B.C	-	Blackish	CL
3	Odour	-	APHA 2150 B	-	Pungent Smell	U/O
4	Appearance	-	APHA 2110	-	Turbid	Clear
5	Total Suspended Solids	mg/l	APHA 2540 D	<20	137	8
6	Biochemical Oxygen Demand as BOD (5 days at 27°C)	mg/l	APHA 5210 B	<10	93	8
7	Chemical Oxygen Demand (COD)	mg/l	APHA 5220 C	<50	282	40
8	Oil & Grease	mg/l	APHA 5520 B	<10	14.4	2.2
9	Ammonical Nitrogen as NH <sub>3</sub> -N	mg/l	APHA 4500 NH <sub>3</sub> F	5	12.6	4.0
10	Total Nitrogen	mg/l	Calculation	<10	15.9	8.7
11	Faecal Coliform	MPN/100ml	APHA 9221 E	<100	280	63





# Visiontek Consultancy Services Pvt. Ltd.

(An Enviro Engineering Consulting Cell)



ISO 9001 : 2008

ISO 14001 : 2015  
IATAS 18001 : 2015

Ref: Envlab/19/R-8210

Date: 04.03.2020

## WATER QUALITY REPORT FEBRUARY-2020

Client Name & Address	M/s The Dhamra Port Company Limited, Dosinga, Bhadrak, Odisha
Work Order No.	4800044480, Date 18.07.2019
Reference No.	Envlab/19/R-8210
Type of Sample	Waste Water Sample
Sampling Location	WW-1: 140 KLD STP Inlet; WW-2: 140 KLD STP Outlet
Date of Sampling	20.02.2020
Date of Analysis	22.02.2020 to 26.02.2020
Sampling Done by	Mr. Samyashree Nayak

Sl. No.	Name of the Parameters	Unit	Testing Method	As per CTO	Analysis Result	
					WW-1	WW-2
1	pH	-	APHA 4500H/B	6.0 - 9.0	7.03	7.48
2	Color	Hazen	APHA 2120B/C	-	Blackish	CL
3	Odour	-	APHA 2150/B	-	Pungent Smell	U/O
4	Appearance	-	APHA 2110	-	Turbid	Clear
5	Total Suspended Solids	mg/l	APHA 2540 D	<20	129	5
6	Biochemical Oxygen Demand as BOD (3 days at 27°C)	mg/l	APHA 5210 B	<10	86	7.0
7	Chemical Oxygen Demand (COD)	mg/l	APHA 5220 C	<50	264	32
8	Oil & Grease	mg/l	APHA 5520 B	<10	13.8	2.6
9	Ammonical Nitrogen as NH <sub>3</sub> -N	mg/l	APHA 4500 NH <sub>3</sub> F	<5	113	4.4
10	Total Nitrogen	mg/l	Calculation	<10	153	7.6
11	Faecal Coliform	MPN/100ml	APHA 9221 E	<100	350	84



Plot No. M-22&23, Chandala Industrial Estate, Patia, Bhubaneswar-751024, Dist. Khurda, Odisha, Tely: 7252017905

Email: visiontek@vcspl.org, visiontek.in@gmail.com, visiontek.in@yahoo.co.in. Visit us at: www.vcspl.org

Committed For Better Environment





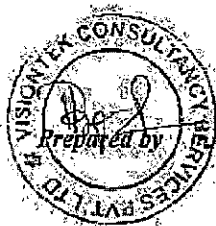
Ref: Envlab/19/R-8211

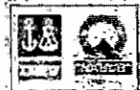
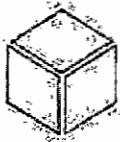
Date: 04.03.2020

## WATER QUALITY REPORT FEBRUARY-2020

Client Name & Address	M/s The Dhamra Port Company Limited, Dosinga, Bhadrak, Odisha
Work Order No.	4800044480, Date: 18.07.2019
Reference No.	Envlab/19/R-8211
Type of Sample	Waste Water Sample
Sampling Location	WW-1: 15 KLD STP Inlet; WW-2: 15 KLD STP Outlet
Date of Sampling	03.02.2020
Date of Analysis	04.02.2020 to 07.02.2020
Sampling Done by	Mr. Samyashree Nayak

SL. No.	Name of the Parameters	Unit	Testing Method	As per CTO	Analysis Result	
					WW-1	WW-2
1	pH	-	APHA 4500H <sub>B</sub>	6.0 - 9.0	6.87	7.41
2	Color	Hazen	APHA 2120 B/C	-	Blackish	CL
3	Odour	-	APHA 2150 B	-	Pungent Smell	U/O
4	Appearance	-	APHA 2110	-	Turbid	Clear
5	Total Suspended Solids	mg/l	APHA 2540 D	<20	115	4
6	Biochemical Oxygen Demand as BOD (3 days at 27°C)	mg/l	APHA 5210 B	<10	45	8
7	Chemical Oxygen Demand (COD)	mg/l	APHA 5220 C	<50	174	32
8	Oil & Grease	mg/l	APHA 5520 B	<10	6.4	ND
9	Ammonical Nitrogen as NH <sub>3</sub> -N	mg/l	APHA 4500 NH <sub>3</sub> E	<5	12.4	2.16
10	Total Nitrogen	mg/l	Calculation	<10	15.05	4.0
11	Fecal Coliform	MPN/100ml	APHA 9221 E	<100	220	49





Ref: Envlab/19/R-8212

Date: 04.03.2020

## WATER QUALITY REPORT FEBRUARY-2020

Client Name & Address	M/s The Dhamra Port Company Limited, Dosinga, Bhadrak, Odisha
Work Order No.	4800044480, Date 18.07.2019
Reference No.	Envlab/19/R-8212
Type of Sample	Waste Water Sample
Sampling Location	WW-1: 15 KLD STP Inlet; WW-2: 15 KLD STP Outlet
Date of Sampling	20.02.2020
Date of Analysis	22.02.2020 to 26.02.2020
Sampling Done by	Mr. Samyashree Nayak

SL. No.	Name of the Parameters	Unit	Testing Method	As per CIO	Analysis Result	
					WW-1	WW-2
1	pH	-	APHA 4500H <sub>1</sub> B	6.0-9.0	7.05	7.47
2	Color	Hazen	APHA 2120 B/C	-	Blackish	CL
3	Odour	-	APHA 2150 B	-	Pungent Smell	U/O
4	Appearance	-	APHA 2110	-	Turbid	Clear
5	Total Suspended Solids	mg/l	APHA 2540 D	<20	133	7
6	Biochemical Oxygen Demand as BOD (3 days at 27°C)	mg/l	APHA 5210 B	<10	42	6.7
7	Chemical Oxygen Demand (COD)	mg/l	APHA 5220 C	<50	156	28
8	Oil & Grease	mg/l	APHA 5520 B	<10	5.6	ND
9	Ammonical Nitrogen as NH <sub>3</sub> -N	mg/l	APHA 4500 NH <sub>3</sub> P	5	11.6	2.54
10	Total Nitrogen	mg/l	Calculation	<10	13.6	3.55
11	Faecal Coliform	MPN/100ml	APHA 9221 E	<100	240	63





# Visiontek Consultancy Services Pvt. Ltd.

(An Enviro Engineering Consulting Cell)



ISO 9001: 2008  
ISO 14001: 2015  
OHSAS 45001: 2018

Ref: Envlab/19/R-9342

Date : 03.04.2020

## AMBIENT AIR QUALITY MONITORING REPORT FOR MARCH-2020

Client Name & Address	M/s The Dhamra Port Company Limited, Dosinga, Bhadrak, Odisha
Work Order No.	4800044480, Date 18.07.2019
Reference No.	Envlab/19/R-9342
Type of Sample	Ambient Air Sample
Sampling Location	AAQMS-1: Colony Area
Sampling Done by	Mr. Samyashree Nayak
Sampling Duration	24hrs
Monitoring Instrument	RDS (APM 460), FPS (APM 550) Envirotech, CO Analyzer, VOC Sampler

Date	PARAMETERS											
	PM <sub>10</sub> (µg/m <sup>3</sup> )	PM <sub>2.5</sub> (µg/m <sup>3</sup> )	SO <sub>2</sub> (µg/m <sup>3</sup> )	NO <sub>x</sub> (µg/m <sup>3</sup> )	CO (mg/m <sup>3</sup> )	NH <sub>3</sub> (µg/m <sup>3</sup> )	O <sub>3</sub> (µg/m <sup>3</sup> )	Pb (µg/m <sup>3</sup> )	Ni (ng/m <sup>3</sup> )	As (ng/m <sup>3</sup> )	C <sub>6</sub> H <sub>6</sub> (µg/m <sup>3</sup> )	BaP (ng/m <sup>3</sup> )
02.03.2020	58.2	30.4	11.6	14.8	1.15	21.6	6.7	BDL	BDL	BDL	BDL	BDL
05.03.2020	60.9	30.7	12.4	15.2	1.15	23.2	5.9	BDL	BDL	BDL	BDL	BDL
09.03.2020	58.3	30.1	12.0	15.7	1.15	21.5	6.1	BDL	BDL	BDL	BDL	BDL
12.03.2020	59.8	29.8	11.3	14.3	1.15	22.0	6.8	BDL	BDL	BDL	BDL	BDL
16.03.2020	60.7	30.6	10.8	13.8	1.15	22.4	6.5	BDL	BDL	BDL	BDL	BDL
19.03.2020	60.1	30.1	11.7	16.2	1.15	23.7	7.1	BDL	BDL	BDL	BDL	BDL
Monthly Average	59.7	30.3	11.6	15.0	1.15	22.4	6.5	BDL	BDL	BDL	BDL	BDL
CPCB, New Delhi AAQ Standard	100	60	80	80	100	4	400	1	20	6	5	1
TEST METHOD	Gravimetric IS 5182: Part 23	Gravimetric EPA 1998	Improved West & Geake Method IS 5182 (Part-2) RA2017	Modified Jacob & Hochheiser Method IS 5182 (Part-6) RA2017	Non Dispersive Infrared Method IS 5182 (Part-10):1999	Indo Phenol Blue Method Air Sampling, 3rd Edn. By James P. Lodge (Method-401)	Chemical Method Air Sampling, 3rd Edn. By James P. Lodge (Method-411)	AAS Method IS 5182(Part-22):2004			Gas Chromatography IS 5182 (Part-11):2006	Solvent Extraction IS 5182 (Part-12):2004

M. Panda  
Prepared By



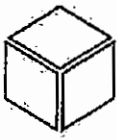
P. Mohanty  
Verified By



Plot No.-M-22&23, Chandaka Industrial Estate, Patia, Bhubaneswar-751024, Dist-Khurda, Odisha Tel.: 7752017905

E-mail : visiontek@vcspl.org, visiontekin@gmail.com, visiontekin@yahoo.co.in, Visit us at: www.vcspl.org

Committed For Better Environment



# Visiontek Consultancy Services Pvt. Ltd.

(An Enviro Engineering Consulting Cell)



ISO 9001 : 2008

ISO 14001: 2015

OHSAS 45001: 2018

Ref: Envlab/19/R-9343

Date : 03.04.2020

## AMBIENT AIR QUALITY MONITORING REPORT FOR MARCH-2020


Client Name & Address	M/s The Dhamra Port Company Limited, Dosinga, Bhadrak, Odisha
Work Order No.	4800044480, Date 18.07.2019
Reference No.	Envlab/19/R-9343
Type of Sample	Ambient Air Sample
Sampling Location	AAQMS-2: Near BMH I
Sampling Done by	Mr. Samyashree Nayak
Sampling Duration	24hrs
Monitoring Instrument	RDS (APM 460), FPS (APM 550) Envirotech, CO Analyzer, VOC Sampler

Date	PARAMETERS											
	PM <sub>10</sub> (µg/m <sup>3</sup> )	PM <sub>2.5</sub> (µg/m <sup>3</sup> )	SO <sub>2</sub> (µg/m <sup>3</sup> )	NO <sub>x</sub> (µg/m <sup>3</sup> )	CO (mg/m <sup>3</sup> )	NH <sub>3</sub> (µg/m <sup>3</sup> )	O <sub>3</sub> (µg/m <sup>3</sup> )	Pb (µg/m <sup>3</sup> )	Ni (ng/m <sup>3</sup> )	As (ng/m <sup>3</sup> )	C <sub>6</sub> H <sub>6</sub> (µg/m <sup>3</sup> )	BaP (ng/m <sup>3</sup> )
02.03.2020	67	36	13.6	15.4	1.15	21.6	7.2	BDL	BDL	BDL	BDL	BDL
05.03.2020	69	37	14.7	17.2	1.15	23.3	7.7	BDL	BDL	BDL	BDL	BDL
09.03.2020	68	35	15.2	17.2	1.15	22.7	6.9	BDL	BDL	BDL	BDL	BDL
12.03.2020	69	36	13.6	16.2	1.15	23.2	7.1	BDL	BDL	BDL	BDL	BDL
16.03.2020	62	33	12.5	17.0	1.15	24.1	6.4	BDL	BDL	BDL	BDL	BDL
19.03.2020	64	35	13.8	16.6	1.15	22.7	7.3	BDL	BDL	BDL	BDL	BDL
Monthly Average	66.5	35.3	13.9	16.6	1.15	22.9	7.1	BDL	BDL	BDL	BDL	BDL
CPCB, New Delhi AAQ Standard	100	60	80	80	100	4	400	1	20	6	5	1
TEST METHOD	Gravimetric IS 5182: Part 23	Gravimetric EPA 1998	Improved Wes & Geake Method IS 5182 (Part-2) RA2017	Modified Jacob & Hochheiser Method IS 5182 (Part-6) RA2017	Non Dispersive Infrared Method IS 5182 (Part-10):1999	Indo Phenol Blue Method Air Sampling, 3rd Edn. By James P. Lodge (Method-401)	Chemical Method Air Sampling, 3rd Edn. By James P. Lodge (Method-411)	AAS Method IS 5182(Part-22):2004			Gas Chromatography IS 5182 (Part-11):2006	Solvent Extraction IS 5182 (Part-12):2004

Mamda  
Prepared By



Puja Mishra  
Verified By





# Visiontek Consultancy Services Pvt. Ltd.

(An Enviro Engineering Consulting Cell)



ISO 9001 : 2008

ISO 14001: 2015

OHSAS 45001: 2018

Ref: Envlab/19/R-9344


Date : 03.04.2020

## AMBIENT AIR QUALITY MONITORING REPORT FOR MARCH-2020


Client Name & Address	M/s The Dhamra Port Company Limited, Dosinga, Bhadrak, Odisha
Work Order No.	4800044480, Date 18.07.2019
Reference No.	Envlab/19/R-9344
Type of Sample	Ambient Air Sample
Sampling Location	AAQMS-3: Near Jetty
Sampling Done by	Mr. Samyashree Nayak
Sampling Duration	24hrs
Monitoring Instrument	RDS (APM 460), FPS (APM 550) Envirotech, CO Analyzer, VOC Sampler

Date	PARAMETERS											
	PM <sub>10</sub> (µg/m <sup>3</sup> )	PM <sub>2.5</sub> (µg/m <sup>3</sup> )	SO <sub>2</sub> (µg/m <sup>3</sup> )	NO <sub>x</sub> (µg/m <sup>3</sup> )	CO (mg/m <sup>3</sup> )	NH <sub>3</sub> (µg/m <sup>3</sup> )	O <sub>3</sub> (µg/m <sup>3</sup> )	Pb (µg/m <sup>3</sup> )	Ni (ng/m <sup>3</sup> )	As (ng/m <sup>3</sup> )	C <sub>6</sub> H <sub>6</sub> (µg/m <sup>3</sup> )	BaP (ng/m <sup>3</sup> )
02.03.2020	87	42	29.3	40.2	1.30	24.8	10.8	0.018	BDL	BDL	BDL	BDL
05.03.2020	84	46	31.5	39.5	1.86	23.5	12.1	0.015	BDL	BDL	BDL	BDL
09.03.2020	88	44	28.7	38.4	1.44	24.2	11.6	0.021	BDL	BDL	BDL	BDL
12.03.2020	89	41	30.2	43.8	1.23	25.6	11.2	0.024	BDL	BDL	BDL	BDL
16.03.2020	84	43	27.7	38.2	1.46	24.3	12.5	0.022	BDL	BDL	BDL	BDL
19.03.2020	85	44	29.6	41.6	1.64	27.5	13.1	0.021	BDL	BDL	BDL	BDL
Monthly Average	86.2	43.3	29.5	40.3	2.96	25.1	11.88	0.020	BDL	BDL	BDL	BDL
CPCB, New Delhi AAQ Standard	100	60	80	80	100	4	400	1	20	6	5	1
TEST METHOD	Gravimetric IS 5182: Part 23	Gravimetric EPA 1998	Improved Wes & Geake Method IS 5182 (Part-2) RA2017	Modified Jacob & Hochheiser Method IS 5182 (Part-6) RA2017	Non Dispersive Infrared Method IS 5182 (Part-10):1999	Indo Phenol Blue Method Air Sampling, 3rd Edn. By James P. Lodge (Method-401)	Chemical Method Air Sampling, 3rd Edn. By James P. Lodge (Method-411)	AAS Method IS 5182(Part -22):2004		Gas Chromatography IS 5182 (Part-11):2006	Solvent Extraction IS 5182 (Part-12):2004	

M. Anand  
Prepared By



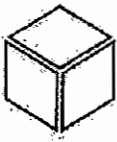
Pooja Mahapatra  
Verified By



Plot No.-M-22&23, Chandaka Industrial Estate, Patia, Bhubaneswar-751024, Dist-Khurda, Odisha Tel.: 7752017905

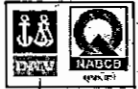
E-mail : visiontek@vcspl.org, visiontekin@gmail.com, visiontekin@yahoo.co.in, Visit us at: www.vcspl.org

Committed For Better Environment



# Visiontek Consultancy Services Pvt. Ltd.

(An Enviro Engineering Consulting Cell)



ISO 9001 : 2008

ISO 14001: 2015

OHSAS 45001: 2018

Ref: Envlab/19/R-9345

Date : 03.04.2020

## AMBIENT AIR QUALITY MONITORING REPORT FOR MARCH-2020

Client Name & Address	M/s The Dhamra Port Company Limited, Dosinga, Bhadrak, Odisha
Work Order No.	4800044480, Date 18.07.2019
Reference No.	Envlab/19/R-9345
Type of Sample	Ambient Air Sample
Sampling Location	AAQMS-4: Dosinga Village
Sampling Done by	Mr. Samyashree Nayak
Sampling Duration	24hrs
Monitoring Instrument	RDS (APM 460), FPS (APM 550) Envirotech, CO Analyzer, VOC Sampler

Date	PARAMETERS											
	PM <sub>10</sub> (µg/m <sup>3</sup> )	PM <sub>2.5</sub> (µg/m <sup>3</sup> )	SO <sub>2</sub> (µg/m <sup>3</sup> )	NO <sub>x</sub> (µg/m <sup>3</sup> )	CO (mg/m <sup>3</sup> )	NH <sub>3</sub> (µg/m <sup>3</sup> )	O <sub>3</sub> (µg/m <sup>3</sup> )	Pb (µg/m <sup>3</sup> )	Ni (ng/m <sup>3</sup> )	As (ng/m <sup>3</sup> )	C <sub>6</sub> H <sub>6</sub> (µg/m <sup>3</sup> )	BaP (ng/m <sup>3</sup> )
02.03.2020	72	37.4	13.7	17.6	1.15	23.5	6.2	0.014	BDL	BDL	BDL	BDL
05.03.2020	69	39.8	14.2	19.5	1.15	22.7	5.6	0.012	BDL	BDL	BDL	BDL
09.03.2020	72	35.2	14.7	20.2	1.15	21.8	5.4	0.013	BDL	BDL	BDL	BDL
12.03.2020	70	36.2	15.1	22.4	1.15	23.5	6.1	0.015	BDL	BDL	BDL	BDL
16.03.2020	67	35.1	13.6	18.6	1.15	21.3	7.2	0.017	BDL	BDL	BDL	BDL
19.03.2020	69	38.4	12.8	17.2	1.15	21.7	6.5	0.012	BDL	BDL	BDL	BDL
Monthly Average	69.8	37.0	14.0	19.3	1.15	22.4	6.17	0.014	BDL	BDL	BDL	BDL
CPCB, New Delhi AAQ Standard	100	60	80	80	100	4	400	1	20	6	5	1
TEST METHOD	Gravimetric IS 5182: Part 23	Gravimetric EPA 1998	Improved Wes & Geake Method IS 5182 (Part-2) RA2017	Modified Jacob & Hochhelsler Method IS 5182 (Part-6) RA2017	Non Dispersive Infrared Method IS 5182 (Part-10):1999	Indo Phenol Blue Method Air Sampling, 3rd Edn.By James P. Lodge (Method-401)	Chemical Method Air Sampling, 3rd Edn.By James P. Lodge (Method-411)	AAS Method IS 5182(Part-22):2004			Gas Chromatography IS 5182 (Part-11):2006	Solvent Extraction IS 5182 (Part-12):2004

M. Panda  
Prepared By



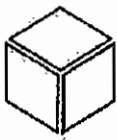
P. Mishra  
Verified By



Plot No.-M-22&23, Chandaka Industrial Estate, Patia, Bhubaneswar-751024, Dist-Khurda, Odisha Tel.: 7752017905

E-mail : visiontek@vcspl.org, visiontekin@gmail.com, visiontekin@yahoo.co.in, Visit us at: www.vcspl.org

Committed For Better Environment



# Visiontek Consultancy Services Pvt. Ltd.

(An Enviro Engineering Consulting Cell)



ISO 9001 : 2008

ISO 14001: 2015

OHSAS 45001: 2018

Ref: Envlab/19/R-9346

Date : 03.04.2020

## AMBIENT AIR QUALITY MONITORING REPORT FOR MARCH-2020

Client Name & Address	M/s The Dhamra Port Company Limited, Dosinga, Bhadrak, Odisha
Work Order No.	4800044480, Date 18.07.2019
Reference No.	Envlab/19/R-9346
Type of Sample	Ambient Air Sample
Sampling Location	AAQMS-5: Kanak Prasad Village
Sampling Done by	Mr. Samyashree Nayak
Sampling Duration	24hrs
Monitoring Instrument	RDS (APM 460), FPS (APM 550) Envirotech, CO Analyzer, VOC Sampler

Date	PARAMETERS											
	PM <sub>10</sub> (µg/m <sup>3</sup> )	PM <sub>2.5</sub> (µg/m <sup>3</sup> )	SO <sub>2</sub> (µg/m <sup>3</sup> )	NO <sub>x</sub> (µg/m <sup>3</sup> )	CO (mg/m <sup>3</sup> )	NH <sub>3</sub> (µg/m <sup>3</sup> )	O <sub>3</sub> (µg/m <sup>3</sup> )	Pb (µg/m <sup>3</sup> )	Ni (ng/m <sup>3</sup> )	As (ng/m <sup>3</sup> )	C <sub>6</sub> H <sub>6</sub> (µg/m <sup>3</sup> )	BaP (ng/m <sup>3</sup> )
02.03.2020	59.0	31.7	7.9	15.5	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
05.03.2020	53.0	28.6	9.4	14.3	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
09.03.2020	58.0	31.7	8.6	15.8	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
12.03.2020	55.0	29.4	9.1	15.2	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
16.03.2020	62.0	33.4	9.5	15.7	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
19.03.2020	54.0	29.7	7.7	14.8	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Monthly Average	56.8	30.8	8.7	15.2	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
CPCB, New Delhi AAQ Standard	100	60	80	80	100	4	400	1	20	6	5	1
TEST METHOD	Gravimetric IS 5182: Part 23	Gravimetric EPA 1998	Improved Wes & Geake Method IS 5182 (Part-2) RA2017	Modified Jacob & Hochhelser Method IS 5182 (Part-6) RA2017	Non Dispersive Infrared Method IS 5182 (Part-10):1999	Indo Phenol Blue Method Air Sampling, 3rd Edn.By James P. Lodge (Method-401)	Chemical Method Air Sampling, 3rd Edn.By James P. Lodge (Method-411)	AAS Method IS 5182(Part-22):2004			Gas Chromatography IS 5182 (Part-11):2006	Solvent Extraction IS 5182 (Part-12):2004

Prepared By



Verified By



Plot No.-M-22&23, Chandaka Industrial Estate, Patia, Bhubaneswar-751024, Dist-Khurda, Odisha Tel.: 7752017905

E-mail : visiontek@vcspl.org, visiontekin@gmail.com, visiontekin@yahoo.co.in, Visit us at: www.vcspl.org

Committed For Better Environment





# Visiontek Consultancy Services Pvt. Ltd.

(An Enviro Engineering Consulting Cell)



ISO 9001 : 2008  
ISO 14001: 2015  
OHSAS 45001: 2018

Ref: Envlab/19/R-9347

Date : 03.04.2020

## AMBIENT AIR QUALITY MONITORING REPORT FOR MARCH-2020

Client Name & Address	M/s The Dhamra Port Company Limited, Dosinga, Bhadrak, Odisha
Work Order No.	4800044480, Date 18.07.2019
Reference No.	Envlab/19/R-9347
Type of Sample	Ambient Air Sample
Sampling Location	AAQMS-6: Eco Sensitive zone (Near Bhitarkanika)
Sampling Done by	Mr. Samyashree Nayak
Sampling Duration	24hrs
Monitoring Instrument	RDS (APM 460), FPS (APM 550) Envirotech, CO Analyzer, VOC Sampler

Date	PARAMETERS											
	PM <sub>10</sub> (µg/m <sup>3</sup> )	PM <sub>2.5</sub> (µg/m <sup>3</sup> )	SO <sub>2</sub> (µg/m <sup>3</sup> )	NO <sub>x</sub> (µg/m <sup>3</sup> )	CO (mg/m <sup>3</sup> )	NH <sub>3</sub> (µg/m <sup>3</sup> )	O <sub>3</sub> (µg/m <sup>3</sup> )	Pb (µg/m <sup>3</sup> )	Ni (ng/m <sup>3</sup> )	As (ng/m <sup>3</sup> )	C <sub>6</sub> H <sub>6</sub> (µg/m <sup>3</sup> )	BaP (ng/m <sup>3</sup> )
02.03.2020	45.0	24.6	6.2	12.4	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
05.03.2020	50.0	27.5	5.8	11.8	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
09.03.2020	48.0	25.2	5.6	12.2	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
12.03.2020	53.0	28.0	6.1	11.5	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
16.03.2020	56.0	29.7	5.2	11.6	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
19.03.2020	44.0	24.6	5.6	11.8	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Monthly Average	49.3	26.6	5.8	11.9	1.15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
CPCB, New Delhi AAQ Standard	100	60	80	80	100	4	400	1	20	6	5	1
TEST METHOD	Gravimetric IS 5182: Part 23	Gravimetric EPA 1998	Improved Wes & Geake Method IS 5182 (Part-2) RA2017	Modified Jacob & Hochheiser Method IS 5182 (Part-6) RA2017	Non Dispersive Infrared Method IS 5182 (Part-10):1999	Indo Phenol Blue Method Air Sampling, 3rd Edn. By James P. Lodge (Method-401)	Chemical Method Air Sampling, 3rd Edn. By James P. Lodge (Method-411)	AAS Method IS 5182(Part -22):2004			Gas Chromatography IS 5182 (Part-11):2006	Solvent Extraction IS 5182 (Part-12):2004

M. Panda  
Prepared By



P. Mohanty  
Verified By



Plot No.-M-22&23, Chandaka Industrial Estate, Patia, Bhubaneswar-751024, Dist-Khurda, Odisha Tel.: 7752017905

E-mail : visiontek@vcspl.org, visiontekin@gmail.com, visiontekin@yahoo.co.in, Visit us at: www.vcspl.org

Committed For Better Environment



Ref: Envlab/19/R-9374

Date : 03.04.2020

**NOISE QUALITY ANALYSIS REPORT FOR MARCH-2020**

Client Name & Address	M/s The Dhamra Port Company Limited, Dosinga, Bhadrak, Odisha
Work Order No.	4800044480, Date 18.07.2019
Analysis No.	Envlab/19/R-9374
Type of Sample	Noise Sample
Sampling Done by	Mr. Samyashree Nayak


Sl. No.	Date of Monitoring	Location	NL Day Time dB(A)			NL Night Time dB(A)		
			MAX	MIN	AVG.	MAX	MIN	AVG.
1	17.03.2020	Near Jetty (I)	72.1	65.2	68.6	69.2	60.2	64.7
2	13.03.2020	Near BMH (I)	63.2	52.0	57.6	50.8	42.7	46.8
3	10.03.2020	Near Colony (R)	54.2	43.2	48.7	44.8	41.6	43.2
4	20.03.2020	Dosinga Village (R)	50.8	44.8	47.8	43.2	39.4	41.3

\*NL- Noise Level, I- Industrial, R-Residential


**National Standard of Noise Level**

Area Code	Category of Area/ Zone	Permissible Limit in dB(A)	
		Day Time	Night Time
A	Industrial Area	75	70
B	Commercial Area	65	55
C	Residential Area	55	45
D	Silence Zone	50	40

*M. Panda*  
Prepared By



*Pooja Mohanty*  
Verified By





# Visiontek Consultancy Services Pvt. Ltd.

(An Enviro Engineering Consulting Cell)



ISO 9001 : 2008

ISO 14001: 2015

OHSAS 45001: 2018

Ref: Envlab/19/R-9348


Date: 03.04.2020

## WATER QUALITY REPORT MARCH-2020

Client Name & Address	M/s The Dhamra Port Company Limited, Dosinga, Bhadrak, Odisha	
Work Order No.	4800044480, Date 18.07.2019	
Reference No.	Envlab/19/R-9348	
Type of Sample	Waste Water Sample	
Sampling Location	WW-1: 140 KLD STP Inlet;	WW-2: 140 KLD STP Outlet
Date of Sampling	11.03.2020	
Date of Analysis	13.03.2020 to 17.03.2020	
Sampling Done by	Mr. Samyashree Nayak	

SL. No.	Name of the Parameters	Unit	Testing Method	As per CTO	Analysis Result	
					WW- 1	WW-2
1	pH	--	APHA 4500H'B	6.0 - 9.0	7.23	7.46
2	Color	Hazen	APHA 2120 B,C	--	Blackish	CL
3	Odour	--	APHA 2150 B	--	Pungent Smell	U/P
4	Appearance	--	APHA 2110	--	Turbid	Clear
5	Total Suspended Solids	mg/l	APHA 2540 D	<20	131	6
6	Biochemical Oxygen Demand as BOD (3 days at 27°C)	mg/l	APHA 5210 B	<10	83	9
7	Chemical Oxygen Demand (COD)	mg/l	APHA 5220 C	<50	272	32
8	Oil & Grease	mg/l	APHA 5520 B	<10	14.8	2.4
9	Ammonical Nitrogen as NH <sub>3</sub> -N	mg/l	APHA 4500 NH <sub>3</sub> F	<5	11.2	4.8
10	Total Nitrogen	mg/l	Calculation	<10	14.4	7.4
11	Feacal Coliform	MPN/100ml	APHA 9221 E	<100	350	79

*M. Panda*  
Prepared By



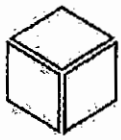
*Puja Mohanty*  
Verified By



Plot No.-M-22&23, Chandaka Industrial Estate, Patia, Bhubaneswar-751024, Dist-Khurda, Odisha Tel.: 7752017905

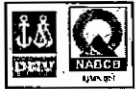
E-mail : visiontek@vcsp.org, visiontekin@gmail.com, visiontekin@yahoo.co.in, Visit us at: www.vcsp.org

Committed For Better Environment



# Visiontek Consultancy Services Pvt. Ltd.

(An Enviro Engineering Consulting Cell)



ISO 9001: 2008

ISO 14001: 2015

OHSAS 45001: 2018

Ref: Envlab/19/R-9349

Date: 03.04.2020

## WATER QUALITY REPORT MARCH-2020


Client Name & Address	M/s The Dhamra Port Company Limited, Dosinga, Bhadrak, Odisha
Work Order No.	4800044480, Date 18.07.2019
Reference No.	Envlab/19/R-9349
Type of Sample	Waste Water Sample
Sampling Location	WW-1: 140 KLD STP Inlet; WW-2: 140 KLD STP Outlet
Date of Sampling	19.03.2020
Date of Analysis	20.03.2020 to 23.03.2020
Sampling Done by	Mr. Samyashree Nayak

SL. No.	Name of the Parameters	Unit	Testing Method	As per CTO	Analysis Result	
					WW-1	WW-2
1	pH	--	APHA 4500H <sup>+</sup> B	6.0 – 9.0	7.15	7.42
2	Color	Hazen	APHA 2120 B,C	--	Blackish	CL
3	Odour	--	APHA 2150 B	--	Pungent Smell	U/O
4	Appearance	--	APHA 2110	--	Turbid	Clear
5	Total Suspended Solids	mg/l	APHA 2540 D	<20	120	7
6	Biochemical Oxygen Demand as BOD (3 days at 27°C)	mg/l	APHA 5210 B	<10	79	6
7	Chemical Oxygen Demand (COD)	mg/l	APHA 5220 C	<50	256	28
8	Oil & Grease	mg/l	APHA 5520 B	<10	12.4	2.0
9	Ammonical Nitrogen as NH <sub>3</sub> -N	mg/l	APHA 4500 NH <sub>3</sub> F	<5	12.0	4.4
10	Total Nitrogen	mg/l	Calculation	<10	15.7	7.8
11	Feecal Coliform	MPN/100ml	APHA 9221 E	<100	240	70

M. P. Panda  
Prepared By



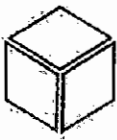
Puja Mishra  
Verified By



Plot No.-M-22&23, Chandaka Industrial Estate, Patia, Bhubaneswar-751024, Dist-Khurda, Odisha Tel.: 7752017905

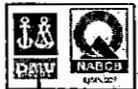
E-mail : visiontek@vcspl.org, visiontekin@gmail.com, visiontekin@yahoo.co.in, Visit us at: www.vcspl.org

Committed For Better Environment



# Visiontek Consultancy Services Pvt. Ltd.

(An Enviro Engineering Consulting Cell)



ISO 9001 : 2008

ISO 14001: 2015

OHSAS 45001: 2018

Ref: Envlab/19/R-9350

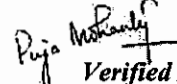

Date: 03.04.2020

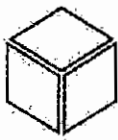
## WATER QUALITY REPORT MARCH-2020

Client Name & Address	M/s The Dhamra Port Company Limited, Dosinga, Bhadrak, Odisha	
Work Order No.	4800044480, Date 18.07.2019	
Reference No.	Envlab/19/R-9350	
Type of Sample	Waste Water Sample	
Sampling Location	WW-1: 15 KLD STP Inlet;	WW-2: 15 KLD STP Outlet
Date of Sampling	11.03.2020	
Date of Analysis	13.03.2020 to 17.03.2020	
Sampling Done by	Mr. Samyashree Nayak	

SL. No.	Name of the Parameters	Unit	Testing Method	As per CTO	Analysis Result	
					WW-1	WW-2
1	pH	--	APHA 4500H <sup>+</sup> B	6.0 - 9.0	7.13	7.36
2	Color	Hazen	APHA 2120 B,C	--	Blackish	CL
3	Odour	--	APHA 2150 B	--	Pungent Smell	U/P
4	Appearance	--	APHA 2110	--	Turbid	Clear
5	Total Suspended Solids	mg/l	APHA 2540 D	<20	128	8
6	Biochemical Oxygen Demand as BOD (3 days at 27°C)	mg/l	APHA 5210 B	<10	44	6.5
7	Chemical Oxygen Demand (COD)	mg/l	APHA 5220 C	<50	160	24
8	Oil & Grease	mg/l	APHA 5520 B	<10	5.8	ND
9	Ammonical Nitrogen as NH <sub>3</sub> -N	mg/l	APHA 4500 NH <sub>3</sub> F	<5	10.6	2.26
10	Total Nitrogen	mg/l	Calculation	<10	12.1	3.5
11	Feecal Coliform	MPN/100ml	APHA 9221 E	<100	210	58

Prepared By  
  


Verified By  
  




# Visiontek Consultancy Services Pvt. Ltd.

(An Enviro Engineering Consulting Cell)



ISO 9001:2008

ISO 14001:2015

OHSAS 45001:2018

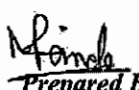

Ref: Envlab/19/R-9351

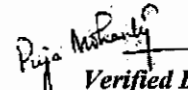
Date: 03.04.2020

## WATER QUALITY REPORT MARCH-2020

Client Name & Address	M/s The Dhamra Port Company Limited, Dosinga, Bhadrak, Odisha
Work Order No.	4800044480, Date 18.07.2019
Reference No.	Envlab/19/R-9351
Type of Sample	Waste Water Sample
Sampling Location	WW-1: 15 KLD STP Inlet; WW-2: 15 KLD STP Outlet
Date of Sampling	19.03.2020
Date of Analysis	20.03.2020 to 23.03.2020
Sampling Done by	Mr. Samyashree Nayak

SL. No.	Name of the Parameters	Unit	Testing Method	As per CTO	Analysis Result	
					WW-1	WW-2
1	pH	--	APHA 4500H <sup>+</sup> B	6.0 - 9.0	6.95	7.44
2	Color	Hazen	APHA 2120 B,C	--	Blackish	CL
3	Odour	--	APHA 2150 B	--	Pungent Smell	U/O
4	Appearance	--	APHA 2110	--	Turbid	Clear
5	Total Suspended Solids	mg/l	APHA 2540 D	<20	119	6
6	Biochemical Oxygen Demand as BOD (3 days at 27°C)	mg/l	APHA 5210 B	<10	49	7.2
7	Chemical Oxygen Demand (COD)	mg/l	APHA 5220 C	<50	184	30
8	Oil & Grease	mg/l	APHA 5520 B	<10	6.2	ND
9	Ammonical Nitrogen as NH <sub>3</sub> -N	mg/l	APHA 4500 NH <sub>3</sub> F	<5	12.2	2.44
10	Total Nitrogen	mg/l	Calculation	<10	14.3	3.6
11	Feecal Coliform	MPN/100ml	APHA 9221 E	<100	180	46

Prepared By  
  


Verified By  
  


Plot No.-M-22&23, Chandaka Industrial Estate, Patia, Bhubaneswar-751024, Dist-Khurda, Odisha Tel.: 7752017905

E-mail : visiontek@vcspl.org, visiontekin@gmail.com, visiontekin@yahoo.co.in, Visit us at: www.vcspl.org

Committed For Better Environment



Ref: Envlab/19/R-9362

Date: 03.04.2020

**MARINE SURFACE WATER QUALITY REPORT**

Client Name & Address	M/s The Dhamra Port Company Limited, Dosinga, Bhadrak, Odisha
Work Order No.	4800044480, Date 18.07.2019
Reference No.	Envlab/19/R-9362
Type of Sample	Marine Sample
Sampling Location	MSW-1: Dhamra river mouth; MSW-2: Dry bulk cargo berth face MSW-3: Liquid/gas cargo berth face; MSW-4: Along channel at 4km
Date of Sampling	20.03.2020
Date of Analysis	21.03.2020 to 25.03.2020
Sampling Done by	Mr. Samyashree Nayak

Sl. No.	Name of the Parameters	Unit	Testing Method	Analysis Result			
				MSW-1	MSW-2	MSW-3	MSW-4
1	Colour	Hazen	APHA 2120 B	10	25	15	10
2	Odour	--	APHA 2150B	Agreeable	Agreeable	Agreeable	Agreeable
3	Temperature	°C	APHA 2550 B	25.6	26.1	25.2	25.7
4	Turbidity	NTU	APHA 2130 B	69	74	68	46
5	pH	--	APHA 4500H <sup>+</sup> B	7.86	7.75	7.81	7.66
6	Electrical Conductivity	µs/cm	APHA 2510 B	21471	21046	25265	25794
7	Salinity	mg/l	APHA 2520 B	16232	15745	17840	17940
8	Total Suspended Solids	mg/l	APHA 2540 D	61	78	96	87
9	Total dissolved solids	mg/l	APHA 2540 C	14637	14205	17787	17899
10	Total Hardness	mg/l	APHA 2340 C	3592	3516	4096	3878
11	Calcium Hardness	mg/l	APHA 3500 Ca B	710	672	1006	886
12	Magnesium Hardness	mg/l	APHA 3500Mg B	2982	2914	3212	3058
13	Chloride (as Cl)	mg/l	APHA 3500Mg B	11504	10921	15093	13428
14	Dissolved Oxygen	mg/l	APHA 4500 O <sup>+</sup> C	6.8	6.4	6.5	6.0
15	Biochemical Oxygen Demand (3 days at 27°C)	mg/l	APHA 5210 B	2.0	2.1	2.0	2.2
16	Chemical Oxygen Demand (COD)	mg/l	APHA 5220 C	24	32	28	30
17	Oil & Grease	mg/l	APHA 5520 B	3.4	4.2	5.8	2.0
18	Dissolved phosphates (as PO <sub>4</sub> )	mg/l	APHA 4500 P,D	BDL	BDL	BDL	BDL
19	Sulphate (as SO <sub>4</sub> )	mg/l	APHA 4500 SO <sub>4</sub> <sup>2-</sup> E	291	319	308	325
20	Nitrite (as NO <sub>2</sub> )	mg/l	APHA 4500 NO <sub>2</sub> B	0.21	0.26	0.39	0.19
21	Nitrate (as NO <sub>3</sub> )	mg/l	APHA 4500 NO <sub>3</sub> E	3.3	3.8	3.1	2.4
22	Ammonical Nitrogen (as NH <sub>3</sub> -N)	mg/l	APHA 4500 NH <sub>3</sub> F	ND	ND	ND	ND
23	Total Nitrogen	mg/l	By Calculation	5.35	6.32	4.9	5.2
24	Total Chromium	mg/l	APHA 3111 B	0.019	0.021	0.036	0.041
25	Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> OH)	mg/l	APHA 5530 B,D	BDL	BDL	BDL	BDL
26	Hexavalent chromium (as Cr <sup>+6</sup> )	mg/l	APHA 3500Cr B	BDL	BDL	BDL	BDL
27	Copper	mg/l	APHA 3111 B	BDL	BDL	BDL	BDL
28	Cadmium	mg/l	APHA 3111 B	BDL	BDL	BDL	BDL
29	Mercury	mg/l	APHA 3500 Hg	BDL	BDL	BDL	BDL
30	Floating material	mg/l	APHA 2530 B	2.6	2.7	3.2	1.9
31	Petroleum Hydrocarbon	mg/l	APHA 5520 F	0.24	0.32	0.43	0.15
32	Faecal coliform	MPN/100ml	APHA 9221 E	12	10	11	14

BDL (Below Detectable Limits) Vanilic acid < 0.02 mg/l, C<sub>6</sub>H<sub>5</sub>OH < 0.05 mg/l, Hg < 0.002 mg/l, Cr < 0.05 mg/l, Cd < 0.01 mg/l, Cr<sup>+6</sup> < 0.05 mg/l,

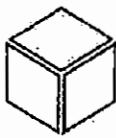
*M. Panda*  
Prepared By



*Pooja Mohanty*  
Verified By







# Visiontek Consultancy Services Pvt. Ltd.

(An Enviro Engineering Consulting Cell)



ISO 9001 : 2008

ISO 14001: 2015

OHSAS 45001: 2018

Ref: Envlab/19/R-9363

Date: 03.04.2020

## MARINE SURFACE WATER QUALITY REPORT

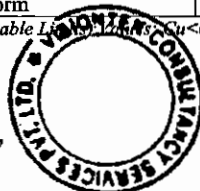
Client Name & Address	M/s The Dhamra Port Company Limited, Dosinga, Bhadrak, Odisha
Work Order No.	4800044480, Date 18.07.2019
Reference No.	Envlab/19/R-9363
Type of Sample	Marine Sample
Sampling Location	MSW-5: Along channel at 8 km; MSW-6: Along channel at 12 km MSW-7: Dredging dumping site inside sea; MSW-8: Near Kanika island
Date of Sampling	20.03.2020
Date of Analysis	21.03.2020 to 25.03.2020
Sampling Done by	Mr. Samyashree Nayak

SL. No.	Name of the Parameters	Unit	Testing Method	Analysis Result			
				MSW-5	MSW-6	MSW-7	MSW-8
1	Colour	Hazen	APHA 2120 B	5	10	20	10
2	Odour	--	APHA 2150B	Agreeable	Agreeable	Agreeable	Agreeable
3	Temperature	°C	APHA 2550 B	25.2	24.1	25.6	26.1
4	Turbidity	NTU	APHA 2130 B	52	44	78	81
5	pH	--	APHA 4500H <sup>+</sup> B	7.52	7.84	7.62	7.81
6	Electrical Conductivity	µs/cm	APHA 2510 B	22633	21537	23786	21705
7	Salinity	mg/l	APHA 2520 B	16312	16205	17241	15324
8	Total Suspended Solids	mg/l	APHA 2540 D	41	37	86	47
9	Total dissolved solids	mg/l	APHA 2540 C	14838	14186	15734	14326
10	Total Hardness	mg/l	APHA 2340 C	3986	3762	4114	3628
11	Calcium Hardness	mg/l	APHA 3500 Ca B	756	698	802	554
12	Magnesium Hardness	mg/l	APHA 3500Mg B	3230	3064	3312	3074
13	Chloride (as Cl)	mg/l	APHA 3500Mg B	14027	13671	12826	12375
14	Dissolved Oxygen	mg/l	APHA 4500 O°C	5.5	6.3	5.6	5.8
15	Biochemical Oxygen Demand (3 days at 27°C)	mg/l	APHA 5210 B	2.3	1.9	2.3	2.2
16	Chemical Oxygen Demand (COD)	mg/l	APHA 5220 C	32	28	34	24
17	Oil & Grease	mg/l	APHA 5520 B	2.4	1.6	5.8	4.2
18	Dissolved phosphates (as PO <sub>4</sub> )	mg/l	APHA 4500 P,D	BDL	BDL	BDL	BDL
19	Sulphate (as SO <sub>4</sub> )	mg/l	APHA 4500 SO <sub>4</sub> <sup>2-</sup> E	314	310	287	319
20	Nitrite (as NO <sub>2</sub> )	mg/l	APHA 4500 NO <sub>2</sub> B	0.22	0.23	0.31	0.28
21	Nitrate (as NO <sub>3</sub> )	mg/l	APHA 4500 NO <sub>3</sub> E	1.9	1.7	2.5	2.1
22	Ammonical Nitrogen (as NH <sub>3</sub> -N)	mg/l	APHA 4500 NH <sub>3</sub> F	ND	ND	ND	ND
23	Total Nitrogen	mg/l	By Calculation	3.26	2.8	4.7	3.7
24	Total Chromium	mg/l	APHA 3111 B	0.071	0.052	0.038	0.035
25	Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> OH)	mg/l	APHA 5530 B,D	BDL	BDL	BDL	BDL
26	Hexavalent chromium (as Cr <sup>+6</sup> )	mg/l	APHA 3500Cr B	BDL	BDL	BDL	BDL
27	Copper	mg/l	APHA 3111 B	0.058	0.053	0.049	0.046
28	Cadmium	mg/l	APHA 3111 B	BDL	BDL	BDL	BDL
29	Mercury	mg/l	APHA 3500 Hg	BDL	BDL	BDL	BDL
30	Floating material	mg/l	APHA 2530 B	1.6	2.2	2.8	2.2
31	Petroleum Hydrocarbon	mg/l	APHA 5520 F	0.15	0.1	0.29	0.19
32	Faecal coliform	MPN/100ml	APHA 9221 E	10	11	8	10

BDL (Below Detectable Limit) Cu<0.02 mg/l, C<sub>6</sub>H<sub>5</sub>OH<0.05 mg/l, Hg<0.002 mg/l, Cr<0.05mg/l, Cd<0.01 mg/l, Cr<sup>+6</sup><0.05 mg/l.

M. Panda

Prepared By



Puja Mishra

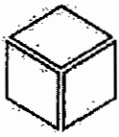
Verified By



Plot No.-M-22&23, Chandaka Industrial Estate, Patia, Bhubaneswar-751024, Dist-Khurda, Odisha Tel.: 7752017905

E-mail : visiontek@vcspl.org, visiontekin@gmail.com, visiontekin@yahoo.co.in, Visit us at: www.vcspl.org

Committed For Better Environment



# Visiontek Consultancy Services Pvt. Ltd.

(An Enviro Engineering Consulting Cell)



ISO 9001 : 2008

ISO 14001: 2015

OHSAS 45001: 2018

Ref:Envlab/19/R-9364

Date: 03.04.2020

## MARINE BOTTOM WATER QUALITY REPORT

Client Name & Address	M/s The Dhamra Port Company Limited, Dosinga, Bhadrak, Odisha
Work Order No.	4800044480, Date 18.07.2019
Reference No.	Envlab/19/R-9364
Type of Sample	Marine Sample
Sampling Location	MBW-1: Dhamra river mouth; MBW-2: Dry bulk cargo berth face MBW-3: Liquid/gas cargo berth face; MBW-4: Along channel at 4km
Date of Sampling	20.03.2020
Date of Analysis	21.03.2020 to 25.03.2020
Sampling Done by	Mr. Samyashree Nayak

SL. No.	Name of the Parameters	Unit	Testing Method	Analysis Result			
				MBW-1	MBW-2	MBW-3	MBW-4
1	Colour	Hazen	APHA 2120 B	25	75	50	50
2	Odour	--	APHA 2150B	Agreeable	Agreeable	Agreeable	Agreeable
3	Temperature	°C	APHA 2550 B	26.8	26.0	26.7	26.1
4	Turbidity	NTU	APHA 2130 B	36	72	78	67
5	pH	--	APHA 4500H <sup>+</sup> B	7.86	7.82	7.73	7.68
6	Electrical Conductivity	µs/cm	APHA 2510 B	24751	28824	20167	25963
7	Salinity	mg/l	APHA 2520 B	17024	19835	14061	18932
8	Total Suspended Solids	mg/l	APHA 2540 D	262	302	281	244
9	Total dissolved solids	mg/l	APHA 2540 C	16826	18768	14572	18495
10	Total Hardness	mg/l	APHA 2340 C	3602	3596	3470	3986
11	Calcium Hardness	mg/l	APHA 3500 Ca B	638	620	684	728
12	Magnesium Hardness	mg/l	APHA 3500Mg B	2964	2976	2786	3258
13	Chloride (as Cl)	mg/l	APHA 3500Mg B	12176	12821	11752	15527
14	Dissolved Oxygen	mg/l	APHA 4500 O <sup>o</sup> C	5.4	5.2	5.0	5.2
15	Biochemical Oxygen Demand (3 days at 27°C)	mg/l	APHA 5210 B	2.2	2.8	3.4	2.9
16	Chemical Oxygen Demand (COD)	mg/l	APHA 5220 C	24	28	36	30
17	Oil & Grease	mg/l	APHA 5520 B	ND	ND	ND	ND
18	Dissolved phosphates	mg/l	APHA 4500 P,D	0.22	0.26	0.28	0.24
19	Sulphate (as SO <sub>4</sub> )	mg/l	APHA 4500 SO <sub>4</sub> <sup>2-</sup> E	287	314	306	296
20	Nitrite (as NO <sub>2</sub> )	mg/l	APHA 4500 NO <sub>2</sub> B	0.21	0.26	0.43	0.35
21	Nitrate (as NO <sub>3</sub> )	mg/l	APHA 4500 NO <sub>3</sub> E	0.37	0.42	0.88	0.74
22	Ammonical Nitrogen (as NH <sub>3</sub> -N)	mg/l	APHA 4500 NH <sub>3</sub> F	ND	ND	ND	ND
23	Total Nitrogen	mg/l	By Calculation	1.72	1.96	2.9	2.3
24	Total Chromium	mg/l	APHA 3111 B	BDL	BDL	BDL	BDL
25	Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> OH)	mg/l	APHA 5530 B,D	BDL	BDL	BDL	BDL
26	Hexavalent chromium (as Cr <sup>+6</sup> )	mg/l	APHA 3500Cr B	BDL	BDL	BDL	BDL
27	Copper	mg/l	APHA 3111 B	0.054	0.093	0.135	0.062
28	Cadmium	mg/l	APHA 3111 B	BDL	BDL	BDL	BDL
29	Mercury	mg/l	APHA 3500 Hg	BDL	BDL	BDL	BDL
30	Floating material	mg/l	APHA 2530 B	ND	ND	ND	ND
31	Petroleum Hydrocarbon	mg/l	APHA 5520 F	ND	ND	ND	ND
32	Faecal coliform	MPN/100ml	APHA 9221 E	11	8	6	4

BDL (Below Detectable Limits) Values: Cr<0.02 mg/l., C6H5OH<0.05 mg/l, Hg<0.002 mg/l, Cr< 0.05mg/l, Cd<0.01 mg/l, Cr<sup>+6</sup><0.05 mg/l,

Prepared By



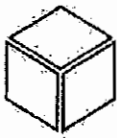
Verified By



Plot No.-M-22&23, Chandaka Industrial Estate, Patia, Bhubaneswar-751024, Dist-Khurda, Odisha Tel.: 7752017905

E-mail : visiontek@vcspl.org, visiontekin@gmail.com, visiontekin@yahoo.co.in, Visit us at: www.vcspl.org

Committed For Better Environment



# Visiontek Consultancy Services Pvt. Ltd.

(An Enviro Engineering Consulting Cell)



ISO 9001 : 2008

ISO 14001: 2015

OHSAS 45001: 2018

Ref:Envlab/19/R- 9365

Date: 03.04.2020

## MARINE BOTTOMWATER QUALITY REPORT

Client Name & Address	M/s The Dhamra Port Company Limited, Dosinga, Bhadrak, Odisha
Work Order No.	4800044480, Date 18.07.2019
Reference No.	Envlab/19/R-9365
Type of Sample	Marine Sample
Sampling Location	MBW-5: Along channel at 8 km; MBW-6: Along channel at 12 km MBW-7: Dredging dumping site inside sea; MBW-8: Near Kanika island
Date of Sampling	20.03.2020
Date of Analysis	21.03.2020 to 25.03.2020
Sampling Done by	Mr. Samyashree Nayak

SL. No.	Name of the Parameters	Unit	Testing Method	Analysis Result			
				MBW-5	MBW-6	MBW-7	MBW-8
1	Colour	Hazen	APHA 2120 B	25	25	75	20
2	Odour	--	APHA 2150B	Agreeable	Agreeable	Agreeable	Agreeable
3	Temperature	°C	APHA 2550 B	24.6	25.6	25.2	25.5
4	Turbidity	NTU	APHA 2130 B	71	84	97	42
5	pH	--	APHA 4500H <sup>+</sup> B	7.64	7.82	7.85	8.31
6	Electrical Conductivity	µs/cm	APHA 2510 B	34916	25018	21879	25094
7	Salinity	mg/l	APHA 2520 B	24713	18762	16132	17953
8	Total Suspended Solids	mg/l	APHA 2540 D	212	234	269	195
9	Total dissolved solids	mg/l	APHA 2540 C	22587	17214	14839	16925
10	Total Hardness	mg/l	APHA 2340 C	4122	3534	3916	3988
11	Calcium Hardness	mg/l	APHA 3500 Ca B	912	720	688	976
12	Magnesium Hardness	mg/l	APHA 3500Mg B	3210	2814	3228	3012
13	Chloride (as Cl)	mg/l	APHA 3500Mg B	13243	12934	12837	14825
14	Dissolved Oxygen	mg/l	APHA 4500 O <sup>o</sup> C	5.1	5.5	5.6	5.2
15	Biochemical Oxygen Demand (3 days at 27°C)	mg/l	APHA 5210 B	2.9	2.6	2.5	3.0
16	Chemical Oxygen Demand (COD)	mg/l	APHA 5220 C	32	24	28	44
17	Oil & Grease	mg/l	APHA 5520 B	ND	ND	ND	ND
18	Dissolved phosphates	mg/l	APHA 4500 P,D	0.12	0.15	0.19	0.14
19	Sulphate (as SO <sub>4</sub> )	mg/l	APHA 4500 SO <sub>4</sub> <sup>2-</sup> E	287	293	302	321
20	Nitrite (as NO <sub>2</sub> )	mg/l	APHA 4500 NO <sub>2</sub> B	0.18	0.23	0.29	0.24
21	Nitrate (as NO <sub>3</sub> )	mg/l	APHA 4500 NO <sub>3</sub> <sup>-</sup> E	0.34	0.38	0.42	0.33
22	Ammonical Nitrogen (as NH <sub>3</sub> -N)	mg/l	APHA 4500 NH <sub>3</sub> F	ND	ND	ND	ND
23	Total Nitrogen	mg/l	By Calculation	2.8	2.5	3.3	2.90
24	Total Chromium	mg/l	APHA 3111 B	BDL	BDL	BDL	BDL
25	Phenolic Compounds (as C <sub>6</sub> H <sub>5</sub> OH)	mg/l	APHA 5530 B,D	BDL	BDL	BDL	BDL
26	Hexavalent chromium (as Cr <sup>+6</sup> )	mg/l	APHA 3500Cr B	BDL	BDL	BDL	BDL
27	Copper	mg/l	APHA 3111 B	0.055	0.047	0.053	0.064
28	Cadmium	mg/l	APHA 3111 B	BDL	BDL	BDL	BDL
29	Mercury	mg/l	APHA 3500 Hg	BDL	BDL	BDL	BDL
30	Floating material	mg/l	APHA 2530 B	ND	ND	ND	ND
31	Petroleum Hydrocarbon	mg/l	APHA 5520 F	ND	ND	ND	ND
32	Faecal coliform	MPN/100ml	APHA 9221 E	12	11	8	6

BDL (Below Detectable Limit) Pb<0.01 mg/l, Ni<0.02 mg/l, C<sub>6</sub>H<sub>5</sub>OH<0.05 mg/l, Hg<0.002 mg/l, Cr< 0.05mg/l, Cd<0.01 mg/l, Cr<sup>+6</sup><0.05 mg/l,

Prepared By  
*M. P. Nayak*



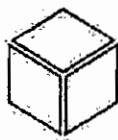
Verified By  
*P. S. Nayak*



Plot No.-M-22&23, Chandaka Industrial Estate, Patia, Bhubaneswar-751024, Dist-Khurda, Odisha Tel.: 7752017905

E-mail : visiontek@vcspl.org, visiontekin@gmail.com, visiontekin@yahoo.co.in, Visit us at: www.vcspl.org

Committed For Better Environment



# Visiontek Consultancy Services Pvt. Ltd.

(An Enviro Engineering Consulting Cell)



ISO 9001: 2008.

ISO 14001: 2015

OHSAS 45001: 2018

Ref:Envlab/19/R- 9366

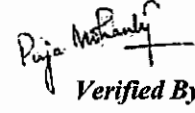

Date: 03.04.2020

## SEA SEDIMENT ANALYSIS REPORT

Client Name & Address	M/s The Dhamra Port Company Limited, Dosinga, Bhadrak, Odisha
Work Order No.	4800044480, Date 18.07.2019
Reference No.	Envlab/19/R-9366
Type of Sample	Sea Sediment Sample
Sampling Location	SS-1: Dhamra river mouth; SS-2: Dry bulk cargo berth face SS-3: Liquid/gas cargo berth face; SS-4: Along channel at 4km
Date of Sampling	20.03.2020
Date of Analysis	21.03.2020 to 25.03.2020
Sampling Done by	Mr. Samyashree Nayak

SL. No.	Name of the Parameters	Unit	Testing Method	Analysis Result			
				SS-1	SS-2	SS-3	SS-4
1	pH	--	IS:2720(P-26):1987	7.73	7.85	8.28	7.86
2	Electrical Conductivity	µs/cm	IS:14767:2000	1286	4692	4312	7175
3	Organic Matter	%	VCSPL/SOP/SOIL/05	0.28	1.46	1.15	1.53
4	Moisture Content	%	IS 2720 (Part-2) 1973	0.2	2.07	1.9	1.48
5	Chloride	mg/kg	USDA:1954-Reaffirmed 2010	987	1025	785	207
6	Sulphate	mg/kg	Method of analysis of Soil by HLS.Tandon	286	302	273	306
7	Sulphide	mg/kg		ND	ND	ND	ND
8	Phosphate	mg/kg		BDL	BDL	BDL	BDL
9	Phosphorous	mg/kg		BDL	BDL	BDL	BDL
10	Iron	mg/kg		EPA 3050B, 7000B	4.922	4.452	3.963
11	Sodium	mg/kg	VCSPL/SOP/SOIL/14	4481	3247	3106	1315
12	Potassium	mg/kg	VCSPL/SOP/SOIL/15	945	874	829	192
13	Copper	mg/kg	EPA 3050B, 7000B	5.742	3.216	2.844	5.837
14	Nickel	mg/kg	EPA 3050B, 7000B	1.56	1.284	1.21	1.925
15	Zinc	mg/kg	EPA 3050B, 7000B	2.422	2.361	2.323	3.862
16	Manganese	mg/kg	EPA 3050B	BDL	BDL	BDL	BDL
17	Lead	mg/kg	EPA 3050B	3.453	2.036	2.315	4.12
18	Boron	mg/kg	EPA 3050B	5.384	5.133	4.862	4.575
19	Aluminium	mg/kg	EPA 3050B	BDL	BDL	BDL	BDL
20	Total Chromium	mg/kg	EPA 3050B	5.473	3.684	3.216	6.572
21	Total Nitrogen	mg/kg	Method of analysis of Soil by HLS.Tandon	1.62	2.18	2.34	1.43
22	Organic Nitrogen	mg/kg	Method of analysis of Soil by HLS.Tandon	1.2	1.53	1.95	0.76
23	Petroleum Hydrocarbon	µg/µl	ASTM D 3921	ND	ND	ND	ND
24	Pesticide	µg/µl	APHA 6630	ND	ND	ND	ND
25	Texture	Sand	Method of Soil Analysis, Black 1965, American Society of Agronomy, USA	27.34	28.2	25.56	84.63
		Silt		0.51	0.37	0.83	1.32
		Clay		72.14	70.65	73.24	13.16

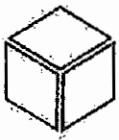
Prepared By  
  


Verified By  
  


Plot No.-M-22&23, Chandaka Industrial Estate, Patia, Bhubaneswar-751024, Dist-Khurda, Odisha Tel.: 7752017905

E-mail : visiontek@vcspl.org, visiontekin@gmail.com, visiontekin@yahoo.co.in, Visit us at: www.vcspl.org

Committed For Better Environment



# Visiontek Consultancy Services Pvt. Ltd.

(An Enviro Engineering Consulting Cell)



ISO 9001 : 2008.

ISO 14001: 2015

OHSAS 45001: 2018

Ref: Envlab/19/R-9367

Date: 03.04.2020

## SEA SEDIMENT ANALYSIS REPORT

Client Name & Address	M/s The Dhamra Port Company Limited, Dosinga, Bhadrak, Odisha
Work Order No.	4800044480, Date 18.07.2019
Reference No.	Envlab/19/R-9367
Type of Sample	Sea Sediment Sample
Sampling Location	SS-5: Along channel at 8 km; SS-6: Along channel at 12 km SS-7: Dredging dumping site inside sea; SS-8: Near Kanika island
Date of Sampling	20.03.2020
Date of Analysis	21.03.2020 to 25.03.2020
Sampling Done by	Mr. Samyashree Nayak

SL. No.	Name of the Parameters	Unit	Testing Method	Analysis Result			
				SS-5	SS-6	SS-7	SS-8
1	pH	--	IS:2720(P-26):1987	8.61	8.27	8.13	8.45
2	Electrical Conductivity	µs/cm	IS:14767:2000	1285	2272	4768	1493
3	Organic Matter	%	VCSPL/SOP/SOIL/05	0.22	1.13	1.42	0.43
4	Moisture Content	%	IS 2720 (Part-2) 1973	0.31	1.56	2.4	0.26
5	Chloride	mg/kg	USDA:1954-Reaffirmed 2010	327	245	1125	257
6	Sulphate	mg/kg	Method of analysis of Soil by HLS.Tandon	284	276	314	293
7	Sulphide	mg/kg		ND	ND	ND	ND
8	Phosphate	mg/kg		BDL	BDL	BDL	BDL
9	Phosphorous	mg/kg		BDL	BDL	BDL	BDL
10	Iron	mg/kg	EPA 3050B, 7000B	1.452	0.328	3.16	0.416
11	Sodium	mg/kg	VCSPL/SOP/SOIL/14	2326	1241	5428	683
12	Potassium	mg/kg	VCSPL/SOP/SOIL/15	643	231	1325	121
13	Copper	mg/kg	EPA 3050B, 7000B	4.162	2.025	2.137	2.445
14	Nickel	mg/kg	EPA 3050B, 7000B	0.763	1.182	0.964	1.102
15	Zinc	mg/kg	EPA 3050B, 7000B	3.286	1.375	1.838	2.134
16	Manganese	mg/kg	EPA 3050B	BDL	BDL	BDL	BDL
17	Lead	mg/kg	EPA 3050B	2.946	1.421	1.615	1.732
18	Boron	mg/kg	EPA 3050B	4.052	3.677	5.863	3.837
19	Aluminium	mg/kg	EPA 3050B	BDL	BDL	BDL	BDL
20	Total Chromium	mg/kg	EPA 3050B	4.374	2.162	2.218	2.645
21	Total Nitrogen	mg/kg	Method of analysis of Soil by HLS.Tandon	3.12	2.43	4.28	3.22
22	Organic Nitrogen	mg/kg	Method of analysis of Soil by HLS.Tandon	2.56	2.12	3.54	2.73
23	Petroleum Hydrocarbon	µg/µl	ASTM D 3921	ND	ND	ND	ND
24	Pesticide	µg/µl	APHA 6630	ND	ND	ND	ND
25	Texture	Sand	Method of Soil Analysis, Black 1965, American Society of Agronomy, USA	75.82	91.47	22.64	82.32
		Silt		0.91	1.28	0.35	0.9
		Clay		23.18	7.24	76.85	16.76

Prepared By



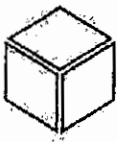
Verified By



Plot No.-M-22&23, Chandaka Industrial Estate, Patia, Bhubaneswar-751024, Dist-Khurda, Odisha Tel.: 7752017905

E-mail : visiontek@vcspl.org, visiontekin@gmail.com, visiontekin@yahoo.co.in, Visit us at: www.vcspl.org

Committed For Better Environment



# Visiontek Consultancy Services Pvt. Ltd.

(An Enviro Engineering Consulting Cell)



ISO 9001 : 2008.

ISO 14001: 2015

OHSAS 45001: 2018

Ref:Envlab/19/R-9368

Date: 03.04.2020

## PHYTOPLANKTON MONITORING REPORT

Client Name & Address	M/s The Dhamra Port Company Limited, Dosinga, Bhadrak, Odisha
Work Order No.	4800044480, Date 18.07.2019
Reference No.	Envlab/19/R-9368
Type of Sample	Marine Sample (Phytoplankton)
Sampling Location	S-1: Dhamra river mouth; S-2: Dry bulk cargo berth face S-3: Liquid/gas cargo berth face; S-4: Along channel at 4km S-5: Along channel at 8 km; S-6: Along channel at 12 km S-7: Dredging dumping site inside sea; S-8: Near Kanika island
Date of Sampling	20.03.2020
Date of Analysis	21.03.2020 to 25.03.2020
Sampling Done by	Mr. Samyashree Nayak

Name of the Parameters	Total count	No of species	Chlorophyll-a	Major Species	
Unit	CFU/100ml	Nos.	mg/l	--	
Testing Method	APHA 9215 B, C	APHA 10200 F	APHA 10200 H	APHA 10200 F	
<b>Analysis Result</b>					
S-1	Surface Water	1808	28	1.886	<i>C.pentagonum, N.longisigma, C.Furca</i>
	Bottom water	1388	8	1.620	<i>C.pentagonum, P.elongatum, Pleurosigma</i>
S-2	Surface Water	5086	26	2.120	<i>C.pentagonum, Pleurosigma, Skeleonema</i>
	Bottom water	5088	10	1.578	<i>P.elongatum, Pleurosigma, Skeleonema</i>
S-3	Surface Water	5216	28	2.695	<i>N.striata, N.longisigma</i>
	Bottom water	6906	16	2.191	<i>Bacillaria, Pleurosigma</i>
S-4	Surface Water	2996	22	1.966	<i>Pleurosigma, C.pentagonum</i>
	Bottom water	2966	12	1.722	<i>C.Furca, C.pentagonum</i>
S-5	Surface Water	1498	26	0.988	<i>Chaetocerus, Bacillaria</i>
	Bottom water	1311	18	0.781	<i>C.pentagonum, C.Furca</i>
S-6	Surface Water	1608	22	1.523	<i>C.pentagonum, C.Furca, Chaetocerus</i>
	Bottom water	1388	16	1.322	<i>C.pentagonum, Pleurosigma</i>
S-7	Surface Water	1910	38	1.590	<i>N.striata, Chaetocerus, Ceratium,</i>
	Bottom water	1798	24	1.261	<i>Bacillaria, Chaetocerus, Ceratium</i>
S-8	Surface Water	1506	26	0.912	<i>Chaetocerus, Ceratium</i>
	Bottom water	892	11	0.623	<i>C.pentagonum, Ceratium fusus</i>

Prepared By  
  


Verified By  
  


Plot No.-M-22&23, Chandaka Industrial Estate, Patia, Bhubaneswar-751024, Dist-Khurda, Odisha Tel.: 7752017905

E-mail : visiontek@vcspl.org, visiontekin@gmail.com, visiontekin@yahoo.co.in, Visit us at: www.vcspl.org

Committed For Better Environment



# Visiontek Consultancy Services Pvt. Ltd.

(An Enviro Engineering Consulting Cell)



ISO 9001 : 2008

ISO 14001: 2015

OHSAS 45001: 2018

Ref:Envlab/19/R-9369

Date: 03.04.2020

## ZOOPLANKTON MONITORING REPORT

Client Name & Address	M/s The Dhamra Port Company Limited, Dosinga, Bhadrak, Odisha	
Work Order No.	4800044480, Date 18.07.2019	
Reference No.	Envlab/19/R-9369	
Type of Sample	Marine Sample (Zooplankton)	
Sampling Location	S-1: Dhamra river mouth; S-3: Liquid/gas cargo berth face; S-5: Along channel at 8 km; S-7: Dredging dumping site inside sea;	S-2: Dry bulk cargo berth face S-4: Along channel at 4km S-6: Along channel at 12 km S-8: Near Kanika island
Date of Sampling	20.03.2020	
Date of Analysis	21.03.2020 to 25.03.2020	
Sampling Done by	Mr. Samyashree Nayak	

Name of the Parameters	Total count	No of species	Major Species	
Unit	CFU/100ml	Nos.	--	
Testing Method	APHA 9215 B, C	APHA 10200 G	APHA 10200 F	
<b>Analysis Result</b>				
S-1	Surface Water	1668	18	Rotifera, Nematoda, Insecta Larvae
	Bottom water	1492	10	Protozoa, Ostracoda
S-2	Surface Water	1512	20	Rotifers, Nematoda Spp.
	Bottom water	1118	16	nematoda, Rotifera Spp.
S-3	Surface Water	3024	36	Crustacean Larvae, Ostracoda Spp.
	Bottom water	2588	28	Crustacean Larvae
S-4	Surface Water	2136	32	acteriological Larvae, Cladocera, Lucifera
	Bottom water	2021	22	Copepod, Rotifera Spp.
S-5	Surface Water	1816	26	Rotifera, Protozoa
	Bottom water	1402	18	Nematoda, Cladocera Spp.
S-6	Surface Water	1452	18	Protozoa, Cladocera
	Bottom water	1218	21	Anostraca, Nematoda Larvae
S-7	Surface Water	1306	21	Rotifera, Nematoda
	Bottom water	1264	18	Anostraca, Nematoda, Rotifera
S-8	Surface Water	1206	30	Rotifera, Nematoda
	Bottom water	1172	18	Nematoda, Rotifera, Ctenophora

*M. Panda*

Prepared By



*Puja Mahapatra*

Verified By

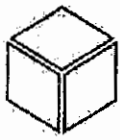


Plot No.-M-22&23, Chandaka Industrial Estate, Patia, Bhubaneswar-751024, Dist-Khurda, Odisha Tel.: 7752017905

E-mail : visiontek@vcspl.org, visiontekin@gmail.com, visiontekin@yahoo.co.in, Visit us at: www.vcspl.org

Committed For Better Environment





# Visiontek Consultancy Services Pvt. Ltd.

(An Enviro Engineering Consulting Cell)



ISO 9001 : 2008

ISO 14001 : 2015

OHSAS 45001 : 2018

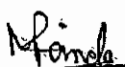

Ref: Envlab/19/R-9370

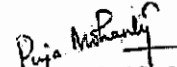

Date: 03.04.2020

## MICROBIOLOGICAL MONITORING REPORT

Client Name & Address	M/s The Dhamra Port Company Limited, Dosinga, Bhadrak, Odisha
Work Order No.	4800044480, Date 18.07.2019
Reference No.	Envlab/19/R-9370
Type of Sample	Marine Sample
Sampling Location	S-1: Dhamra river mouth; S-2: Dry bulk cargo berth face S-3: Liquid/gas cargo berth face; S-4: Along channel at 4km S-5: Along channel at 8 km; S-6: Along channel at 12 km S-7: Dredging dumping site inside sea; S-8: Near Kanika island
Date of Sampling	20.03.2020
Date of Analysis	21.03.2020 to 25.03.2020
Sampling Done by	Mr. Samyashree Nayak

Name of the Parameters	Total Bacteria count	Total Coliform	Faecal Coliform	E. coli	Enterococcus	Salmonella	Shigella	Vibrio
Unit	CFU/ml	MPN/100ml	MPN/100ml	MPN/100ml	CFU/ml	CFU/ml	CFU/ml	CFU/ml
Testing Method	APHA 9215 B, C	APHA 9221 B	APHA 9221 E	APHA 9221 F	APHA 9230 B	APHA 9260 B	APHA 9260 E	APHA 9260 H
<b>Analysis Result</b>								
S-1	Surface Water	440	60	12	ND	ND	ND	ND
	Bottom water	900	60	11	ND	ND	ND	ND
S-2	Surface Water	320	40	10	ND	ND	ND	ND
	Bottom water	440	40	8	ND	ND	ND	ND
S-3	Surface Water	440	120	11	ND	ND	ND	ND
	Bottom water	260	70	6	ND	ND	ND	ND
S-4	Surface Water	320	40	14	ND	ND	ND	ND
	Bottom water	220	24	4	ND	ND	ND	ND
S-5	Surface Water	460	30	10	ND	ND	ND	ND
	Bottom water	900	40	12	ND	ND	ND	ND
S-6	Surface Water	1400	120	11	ND	ND	ND	ND
	Bottom water	520	40	11	ND	ND	ND	ND
S-7	Surface Water	320	50	8	ND	ND	ND	ND
	Bottom water	210	90	8	ND	ND	ND	ND
S-8	Surface Water	320	60	10	ND	ND	ND	ND
	Bottom water	260	40	6	ND	ND	ND	ND

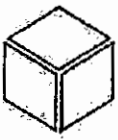
Prepared By   


Verified By   


Plot No.-M-22&23, Chandaka Industrial Estate, Patia, Bhubaneswar-751024, Dist-Khurda, Odisha Tel.: 7752017905

E-mail : visiontek@vcspl.org, visiontekin@gmail.com, visiontekin@yahoo.co.in, Visit us at: www.vcspl.org

Committed For Better Environment



# Visiontek Consultancy Services Pvt. Ltd.

(An Enviro Engineering Consulting Cell)



ISO 9001 : 2008.

ISO 14001: 2015

OHSAS 45001: 2018


Ref: Envlab/19/R-9371

Date: 03.04.2020


## PRIMARY PRODUCTIVITY MONITORING REPORT

Client Name & Address	M/s The Dhamra Port Company Limited, Dosinga, Bhadrak, Odisha
Work Order No.	4800044480, Date 18.07.2019
Reference No.	Envlab/19/R-9371
Type of Sample	Marine Sample (Productivity)
Date of Sampling	20.03.2020
Date of Analysis	21.03.2020 to 25.03.2020
Sampling Done by	Mr. Samyashree Nayak

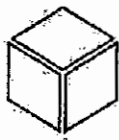
Sl. No.	Monitoring Location		Gross Primary productivity (mgC/L/day)	Net Primary productivity (mgC/L/day)
1	S-1: Dhamra river mouth	Surface Water	3.2	2.1
		Bottom water	3.6	1.8
2	S-2: Dry bulk cargo berth face	Surface Water	3.4	1.4
		Bottom water	3.1	1.2
3	S-3: Liquid/gas cargo berth face	Surface Water	3.8	2.1
		Bottom water	2.8	1.2
4	S-4: Along channel at 4km	Surface Water	2.6	2.1
		Bottom water	2.2	1.1
5	S-5: Along channel at 8 km	Surface Water	3.2	2.2
		Bottom water	2.6	1.4
6	S-6: Along channel at 12 km	Surface Water	3.2	2.1
		Bottom water	2.1	1.2
7	S-7: Dredging dumping site inside sea	Surface Water	2.8	1.2
		Bottom water	2.2	1.1
8	S-8: Near Kanika Island	Surface Water	3.4	1.6
		Bottom water	1.8	1.1

Prepared By  
  
M. Fancha



Verified By  
  
P. Mohanty





# Visiontek Consultancy Services Pvt. Ltd.

(An Enviro Engineering Consulting Cell)



ISO 9001: 2008.

ISO 14001: 2015

OHSAS 45001: 2018

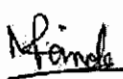

Ref: Envlab/19/R-9372



Date: 03.04.2020

## PHYTO BENTHOSMONITORING REPORT

Client Name & Address	M/s The Dhamra Port Company Limited, Dosinga, Bhadrak, Odisha
Work Order No.	4800044480, Date 18.07.2019
Reference No.	Envlab/19/R-9372
Type of Sample	Marine Sample
Sampling Location	S-1: Dhamra river mouth; S-2: Dry bulk cargo berth face S-3: Liquid/gas cargo berth face; S-4: Along channel at 4km S-5: Along channel at 8 km; S-6: Along channel at 12 km S-7: Dredging dumping site inside sea; S-8: Near Kanika island
Date of Sampling	20.03.2020
Date of Analysis	21.03.2020 to 25.03.2020
Sampling Done by	Mr. Samyashree Nayak

Name of the Parameters	Fungus	Total Count	No of species	Diversity Index	Major species	
Unit	CFU/g dry wt.	50 mg wet sediment	Nos.	--	--	
Testing Method	APHA 9610 B	APHA 9215 B, C	APHA 10500 B	By Calculation (Shannon's Index)	APHA 10500 B	
<b>Analysis Result</b>						
S-1	Surface Water	2688	260	21	0.8826	<i>N.longisigma</i>
	Bottom water	2608	320	18	0.8026	<i>Rotifera</i>
S-2	Surface Water	3912	310	16	0.6515	<i>Podasira, N.longisigma</i>
	Bottom water	3642	252	10	0.5912	<i>Podosire</i>
S-3	Surface Water	2978	284	22	0.6612	<i>Podosira, Echinodermata</i>
	Bottom water	1942	224	10	0.5412	<i>N.longisigma, Ditylum</i>
S-4	Surface Water	3488	260	12	0.5612	<i>Ditylum, Copepods</i>
	Bottom water	4264	212	6	0.5608	<i>Ditylum</i>
S-5	Surface Water	2584	262	12	0.8778	<i>N.longisigma</i>
	Bottom water	1486	232	8	0.8888	<i>Podosira, N.longisigma</i>
S-6	Surface Water	2012	290	8	0.9746	<i>Podosira, Ctenophora</i>
	Bottom water	1788	324	6	0.9212	<i>Podosira, N.longisigma</i>
S-7	Surface Water	2542	334	12	0.5789	<i>ditylum</i>
	Bottom water	2508	266	10	0.6922	<i>Podosira</i>
S-8	Surface Water	2882	212	22	0.6988	<i>Podosira, N.longisigma</i>
	Bottom water	2088	544	14	0.6388	<i>Podosira</i>

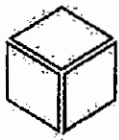
Prepared By   


Verified By   


Plot No.-M-22&23, Chandaka Industrial Estate, Patia, Bhubaneswar-751024, Dist-Khurda, Odisha Tel.: 7752017905

E-mail : visiontek@vcspl.org, visiontekin@gmail.com, visiontekin@yahoo.co.in, Visit us at: www.vcspl.org

Committed For Better Environment



# Visiontek Consultancy Services Pvt. Ltd.

(An Enviro Engineering Consulting Cell)



ISO 9001 : 2008

ISO 14001: 2015

OHSAS 45001: 2018

Ref: Envlab/19/R-9373

Date: 03.04.2020

## TOTAL FAUNA MONITORING REPORT

Client Name & Address	M/s The Dhamra Port Company Limited, Dosinga, Bhadrak, Odisha	
Work Order No.	4800044480, Date 18.07.2019	
Reference No.	Envlab/19/R-9373	
Type of Sample	Marine Sample	
Sampling Location	S-1: Dhamra river mouth; S-3: Liquid/gas cargo berth face; S-5: Along channel at 8 km; S-7: Dredging dumping site inside sea;	S-2: Dry bulk cargo berth face S-4: Along channel at 4km S-6: Along channel at 12 km S-8: Near Kanika island
Date of Sampling	20.03.2020	
Date of Analysis	21.03.2020 to 25.03.2020	
Sampling Done by	Mr. Samyashree Nayak	

Name of the Parameters	Name of phylum	Class & No. of individuals encountered	Total no of species encountered	Total fauna per m <sup>3</sup>	
Testing Method	APHA 10700				
<b>Analysis Result</b>					
S-1	Surface Water	Annelida, Mollusca	Polychaeta-46, Bivalvia-20	44	126
	Bottom water	Annelida, Mollusca	Polychaeta-25, Gastropoda-12, Pelecypoda-5	26	180
S-2	Surface Water	Annelida, Mollusca	Polychaeta-18, Gastropoda-12, Bivalvia-14, Scaphopoda-3	18	852
	Bottom water	Annelida, Mollusca	Polychaeta-32, Gastropoda-10, Bivalvia-28, Scaphopoda-26	32	832
S-3	Surface Water	Annelida, Mollusca	Polychaeta-52, Bivalvia-26	80	440
	Bottom water	Annelida, Mollusca	Polychaeta-18, Bivalvia-12	80	760
S-4	Surface Water	Athropda, Annelida, Mollusca	Amphipoda-35, Polychaeta-10, Gastropoda-8, Bivalvia-6, Scaphopoda-5	80	806
	Bottom water	Athropda, Annelida, Mollusca	Amphipoda-42, Polychaeta-10, Gastropoda-6, Bivalvia-10, Pelecypoda-6	86	912
S-5	Surface Water	Annelida, Mollusca	Polychaete-28, Gastropoda-20, Bivalvia-22, Pelecypoda-24	68	702
	Bottom water	Annelida, Mollusca	Polychaete-32, Gastropoda-22, Bivalvia-18, Pelecypoda-31	92	566
S-6	Surface Water	Athropda, Annelida, Mollusca	Malagostraca-12, Polychaete-21, Gastropoda-16, Pelecypoda-8	70	488
	Bottom water	Athropda, Annelida, Mollusca	Malagostraca-18, Polychaete-21, Gastropoda-18, Pelecypoda-8	42	608
S-7	Surface Water	Annelida, Athropoda	Polycheata-12, Copepoda-18	58	580
	Bottom water	Annelida, Athropoda	Polycheata-14, Copepoda-22	42	562
S-8	Surface Water	Athropda, Annelida	Malagostraca-16, Polychaete-8	40	574
	Bottom water	Athropda, Annelida	Malagostraca-10, Polychaete-28	38	532

Prepared By



Verified By



Plot No.-M-22&23, Chandaka Industrial Estate, Patia, Bhubaneswar-751024, Dist-Khurda, Odisha Tel.: 7752017905

E-mail : visiontek@vcspl.org, visiontekin@gmail.com, visiontekin@yahoo.co.in, Visit us at: www.vcspl.org

Committed For Better Environment

**ANNEXURE-II**  
**TYPES AND QUANTITY OF FIRE**  
**EXTINGUISHER**

**ANNEXURE II – TYPES AND QUANTITY OF FIRE EXTINGUISHERS**

The Dhamra Port Company Limited		
Fire Extinguisher Details		
Sl No	Location	Type of Extinguishers & Quantity
1	SWITCH YARD	DCP-5KG-4nos
2	MCC -1	(CO2-4.5KG)-4nos (CO2 -3KG)-2nos, (FOAM-50ltrs)-01no
3	MCC -2	(CO2-4.5KG)-2nos
4	MCC -2(A)	(CO2-4.5KG)-1no (CO2 -3KG)-1no
5	MCC -3	(CO2-4.5KG)-2nos (CO2 -3KG)-1no (FOAM-50ltrs)-01no
6	MCC -4	(CO2-4.5KG)-02nos. (DCP- 5KG)-1no
7	TP - 1(A)	CO2-4.5KG-1no
8	TP - 1(B)	CO2-4.5KG-1no
9	TP - 2	CO2-4.5KG-1no
10	TP - 2(A)	CO2-4.5KG-1no
11	TP - 3	CO2 -4.5KG-1no
12	TP - 3(A)	CO2 -4.5KG-1no
13	NEW TP-3	CO2 -4.5KG-1no
14	TP - 4	CO2 -4.5KG-1no
15	TP - 4 (A)	CO2 -4.5KG-1no
16	TP - 5	CO2 -4.5KG-1no
17	TP - 6	CO2 -4.5KG-1no
18	TP-7	CO2 -4.5KG-1no
19	TP-8	CO2 -4.5KG-1no
20	TP-9	CO2 -4.5KG-1no (DCP- 5KG)-1no.
21	TP-10	CO2 -4.5KG-2nos
22	TP-11	CO2 -4.5KG-1no
23	TP - 12	CO2 -4.5KG-1no
24	TP - 13	CO2 -4.5KG-1no
25	JETTY	CO2 -4.5KG-2nos DCP-5KG-5nos
26	SL	CO2 -4.5KG-4nos DCP-5KG-1no
27	SUL-1	CO2 -4.5KG-5nos (CO2 -3KG)-1nos (DCP- 5KG)-2nos
28	SUL-2	CO2 -4.5KG-5nos (CO2 -3KG)-1nos (DCP- 5KG)-2nos
29	SUL-3	CO2 -4.5KG-6nos (DCP-2KG)-2nos (DCP- 5KG)-1no
30	SUL-4	CO2 -4.5KG-6nos (DCP- 5KG)-3nos
31	SUL-5	CO2 -4.5KG-6nos (DCP- 5KG)-3nos
32	LIEBHERR-11	CO2 -4.5KG-2no, DCP-5KG-2nos, DCP-2KG-2nos
33	LIEBHERR-12	CO2 -4.5KG-2no, DCP-5KG-4nos
34	SILO - 1	CO2 -4.5KG-3nos DCP-5KG-1no
35	SILO - 2	CO2 -4.5KG-3nos
36	FIRE PUMP HOUSE	CO2 -4.5KG-2nos
37	WTC -1	CO2 -4.5KG-1no CO2-4.5kg-01 No. DCP-5KG-2Nos
38	WTC -2	CO2 -4.5KG-2nos DCP-5KG-2nos CO2 -3KG-1no
39	SR -1	CO2 -4.5KG-2nos DCP-5KG-1no
40	R - 1	CO2 -4.5KG-2nos DCP-5KG-1no
41	SR -2	CO2 -4.5KG-2nos DCP-5KG-1no
42	SR -3	CO2 -4.5KG-2nos DCP-5KG-1no
43	SR -4	CO2 -4.5KG-1no CO2 -3KG-1no, DCP-5KG-1no
44	SR-5	CO2 -4.5KG-2nos DCP-5KG-1no

45	SR-6	CO2 -4.5KG-2nos DCP-5KG-1no, DCP-25kg-U1 No. Foam50ltr-01 No.
46	Fire & Security Barrack	CO2-4.5KG-3nos, DCP-5KG-2no
47	JETTY CONTAINER	CO2-4.5KG-1no, DCP-5KG-1no
48	MHS OFFICE	CO2-4.5KG-2 Nos.
49	PSS	CO2 -4.5KG-3nos, DCP-5kg-01No.
50	BMH WORK SHOP	CO2 -4.5KG-1no DCP-5KG-2nos FOAM-50ltrs-01no
51	All Equipment	DCP-5KG-06nos.
52	LOCO SHED	CO2 -4.5KG-02 Nos, DCP-5KG-2Nos.
53	DIESEL FILLING STATION	Foam-9ltr-1no
54	IOCL	Foam-9ltr-1no
55	WTP	CO2 -4.5KG-3nos
56	DPCL OFFICE(SALANDI)	CO2-4.5KG-1nos DCP-5KG-2nos,
57	REWA OFFICE	CO2-4.5KG-3Nos DCP-5KG-1No
58	CUSTOMS OFFICE	CO2-4.5KG-1No DCP-5KG-1No
59	DPCL STORE	CO2 -4.5KG-1no DCP-5KG-1No
60	Lubricant Store	Foam-9ltr-1no, DCP-5KG-1No.
61	SS-01	CO2 -4.5KG-1no
62	SS-02	CO2 -4.5KG-1no
63	SS-03	CO2 -4.5KG-1no
64	SS-04	CO2 -4.5KG-1no
65	SS-05	CO2 -4.5KG-3nos
66	NEW CANTEEN (Adani port canteen)	CO2 -4.5KG-01no DCP-5KG-1no
67	DHAMRA HOUSE	DCP-5KG-6nos CO2 4.5KG-01no
68	KANIKA GUEST HOUSE	CO2 -4.5KG-01no DCP-5KG-1no
69	DAV SCHOOL, KUAMARA	CO2 -4.5KG-16nos DCP-5KG-14nos
70	TOWNSHIP	CO2 -4.5KG-11nos
71	COMMUNITY HALL	CO2 -4.5KG-1nos DCP-5KG-2nos
72	PREFAB	CO2 -4.5KG-4nos DCP-5KG-5nos
73	PMC OFFICE(HR)	CO2 -4.5KG-1no
74	DHAMRA GUEST HOUSE (Kalibhanja Guest House)	CO2 -4.5KG-4Nos.
75	RAILWAY OFFICE	CO2 -4.5KG-02noS DCP-5KG-3nos
76	BHATATIRA STATION	CO2(4.5kg)-2Nos DCP-5KG-1no
77	BHATATIRA LC-5	DCP-5KG-1no
78	BHATATIRA- SP	CO24.5kg-1No
79	GURUDASPUR STATION	CO2-4.5KG-1No DCP-5KG-1No
80	GURUDAS PUR TSS	CO2 -4.5KG-1no DCP-5KG-4Nos.
81	GURUDAS PUR SUB STATION	DCP-5KG-2Nos
82	INTAKE	CO2 -4.5KG-3nos DCP-5KG-1no
83	RANITAL	CO2 -4.5KG-1no
84	GURUDAS PUR LC-19	DCP-5KG-1no
85	IMWB	CO2-4.5KG-1 No.
86	LOCO TRANSFORMER	CO2-4.5KG-2nos, DCP-5KG-2nos
87	HEALTH CENTRE	CO2-4.5KG-1no, DCP-5KG-1 No.
88		
89	TOWER WAGON	DCP-5KG-3nos
90	TIHIDI STATION	CO2 -4.5KG-1no DCP-5KG-1no
91	BANSADA STATION	CO2 -4.5KG-3nos
92	LC-26,NEAR DI ROAD	CO2 -4.5KG-1no

93	KOCHILA OFFICE	CO2-4.5KG-2Nos DCP-5KG-2nos
94	BRAMHANI OFFICE	CO2 -4.5KG-1no DCP-5KG-1no
95	KANIKA TRANSFORMER	CO2 -4.5KG-1no, DCP5KG-1NO.
96	SECURITY CONTAINER, NEAR MAIN GATE	CO2 -4.5KG-1no DCP-5KG-1no
97	FIRST AID CENTER	CO2 -4.5KG-1no DCP-5KG-1no
98	DPCL AMBULANCE(OLD)	DCP-5KG-1no.
99	DPCL AMBULANCE(NEW)	DCP-5KG-1no.
100	RAILWAY GSS	CO2 -4.5KG-1no DCP-5KG-1no
101	RUNNING ROOM	CO2 -4.5KG-1no DCP-5KG-1no
102	SAFETY INDUCTION HALL	CO2 -4.5KG-1no
103	FCC GODOWN	CO2 -4.5KG-19nos DCP-5KG-03nos Foam-9ltr-3nos, Foam 50 ltr.-1 No.
104	FCC OFFICE	CO2 -4.5KG-1no DCP-5KG-1no
105	FCC CANTEEN	DCP-5KG-1no
106	WOISTAGE OIL STORE	Foam-9ltr-1no,CO2 4.5KG-01NO
107	LABOUR REST HOUSE	CO2 -4.5KG-1no
108	SS-6	CO2 -4.5KG-16nos DCP-5KG-8nos
109	COLONY PUMP HOUSE	CO2 -4.5KG-1no
110	BHADRAK GUEST HOUSE	CO2 -4.5KG-1no DCP-5KG-1no
111	BBSR OFFICE	CO2 -4.5KG-2nos DCP-5KG-3nos
112	ADANI RAILWAY ENGINE	CO2 4.5KG-1, DCP-5KG-01 NO.
113	SILO-3	DCP-5KG-01 NO
114	SILO-4	CO2 4.5KG-01 NO
115	MCC-1A	CO2 4.5KG-03 NOS.DCP5KG-01 NO.
116	NEW TOWNSHIP	CO2 4.5KG-04NOS. DCP 5KG-04 NOS.
117	WASTE SHED	DCP5KG-1 NO, FOAM9LTR-1 NO.
118	FCC TRANSFERMER	DCP5KG-01 NO,CO2 4.5KG-01 NO
119	FCC LABOUR COLONY	CO2-4.5KG-01 NO, DCP5KG-02NOS.
<b>Total Fire Extinguisher Installed at site</b>		<b>Co2-4.5kg=267Nos, CO2-3kg =09nos, DCP-5kg=165nos, DCP-2kg=06nos DCP 25kg-01 &amp; Foam-9ltrs=09nos, Foam -50ltrs -04nos</b>
STOCK BALANCE FIRE TENDER WITH FIRE STORE & DPCL STORE		CO2 (4.5kg) = 53nos, DCP (ABC)-6kg-71nos, DCP 25kg-05 Nos. Foam(9ltrs)-08Nos & Foam (50ltrs)-04nos

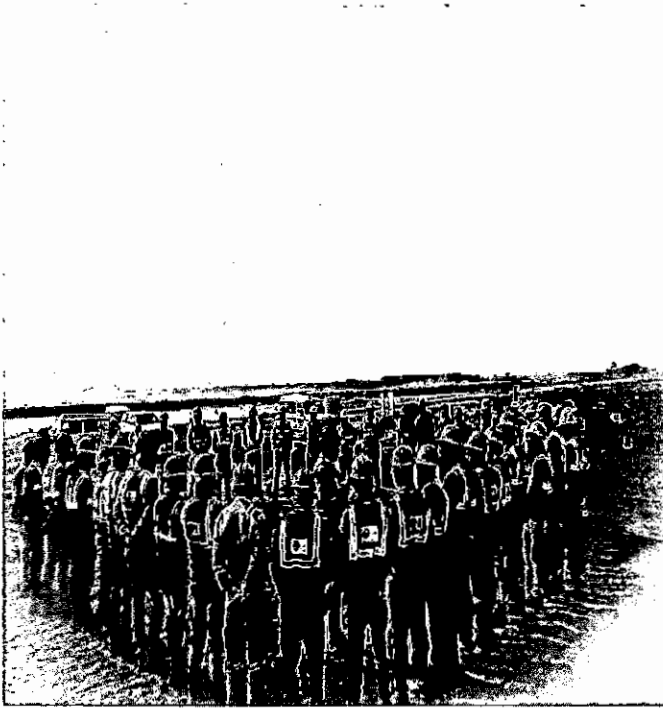


**ANNEXURE-III**  
**DETAILS OF MOCK DRILL**

### Annexure III – DETAILS OF MOCK DRILLS

SL.NO	Description of mock drills and training	Numbers of training & mock drill conducted	Numbers of participants
1	Emergency Rescue mock drill	07	210
2	Safety Induction Training	142	2524
3	Portable fire Extinguishers training	13	556
4	Contractor safety training	109	2597
5	Defensive driving training	3	122
6	Tool box training	30663	293566
7	On the Job Safety Awareness	1161	19051

### FIRE EXTINGUISHER TRAINING





**EMERGENCY RESCUE MOCK DRILL AT SITE**

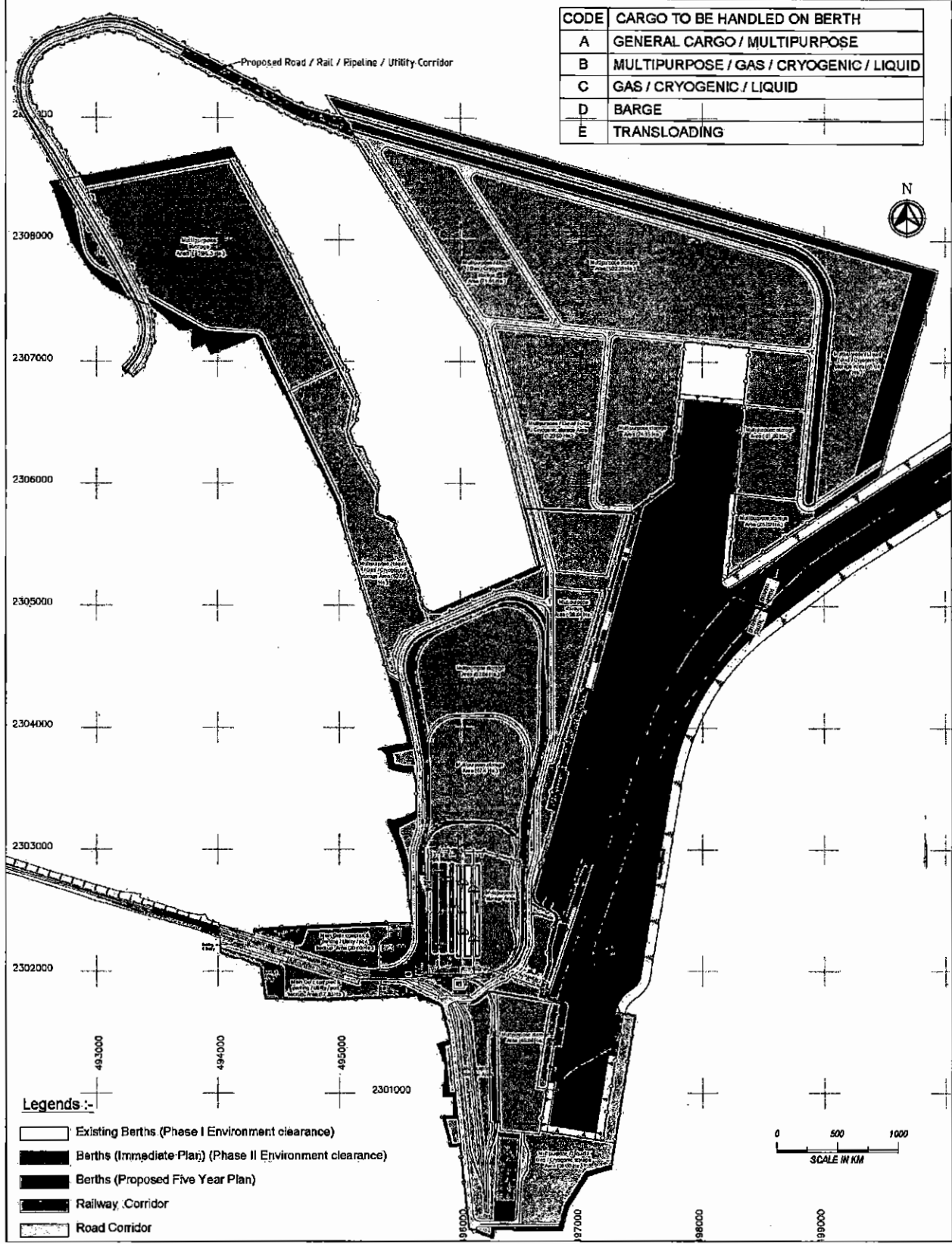




**ANNEXURE-IV**

**PORT LAYOUT**

CODE	CARGO TO BE HANDLED ON BERTH
A	GENERAL CARGO / MULTIPURPOSE
B	MULTIPURPOSE / GAS / CRYOGENIC / LIQUID
C	GAS / CRYOGENIC / LIQUID
D	BARGE
E	TRANSLOADING



AUTO BANK LAYOUTS, SERVICES, ETC. FOR WAREHOUSE PORT DEVELOPMENT. PREPARED BY: CIVIL ENGINEERS, JALAN LINDA, KUALA LUMPUR. DATE: 22.05.2018. FILE: D:\PLANS\B06

THE SHEET IS THE PROPERTY OF L&T INFRA ENGINEERING. IT IS TO BE USED ONLY FOR THE PROJECT AND SITE SPECIFICALLY MENTIONED THEREIN. IT IS NOT TO BE REPRODUCED, COPIED, OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN PERMISSION OF L&T INFRA ENGINEERING.	PROJECT: <b>REVISED MASTER PLAN DEVELOPMENT OF DHAMRA PORT</b>	PROJECT NO: <b>C114.1302</b>
	TITLE: <b>REVISED MASTER PLAN (5 YEARS)</b>	DATE: <b>22.05.2018</b>
		MADE BANK: <b>BP</b> FIGURE NO: <b>FD0202</b> REV: <b>0</b>

**ANNEXURE-V**  
**GREEN BELT DETAILS**

## **GREENBELT DETAILS**



**1. Nursery Development**



**2. Nursery with 1 lakh Sapling Stock**

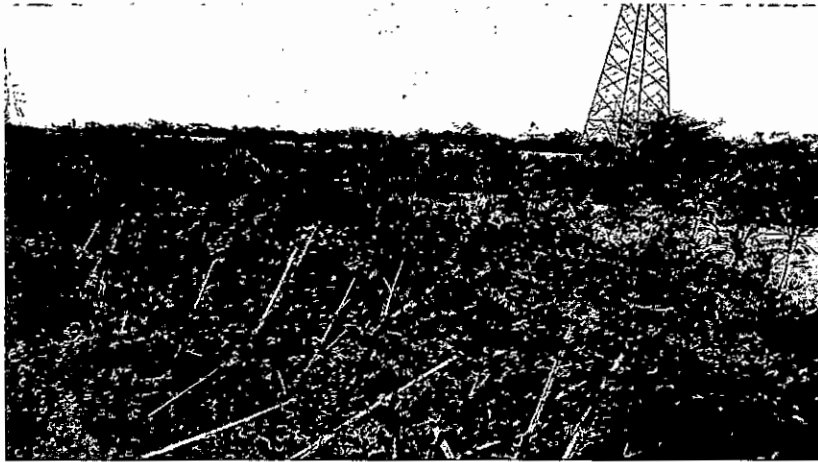


**3. Greenbelt around the port**





**4. Greenbelt around the port**



**5. Greenbelt around the port**



**6. Greenbelt development in adjacent villages**

**ANNEXURE-VI**  
**ENVIRONMENT EXPENDITURE**

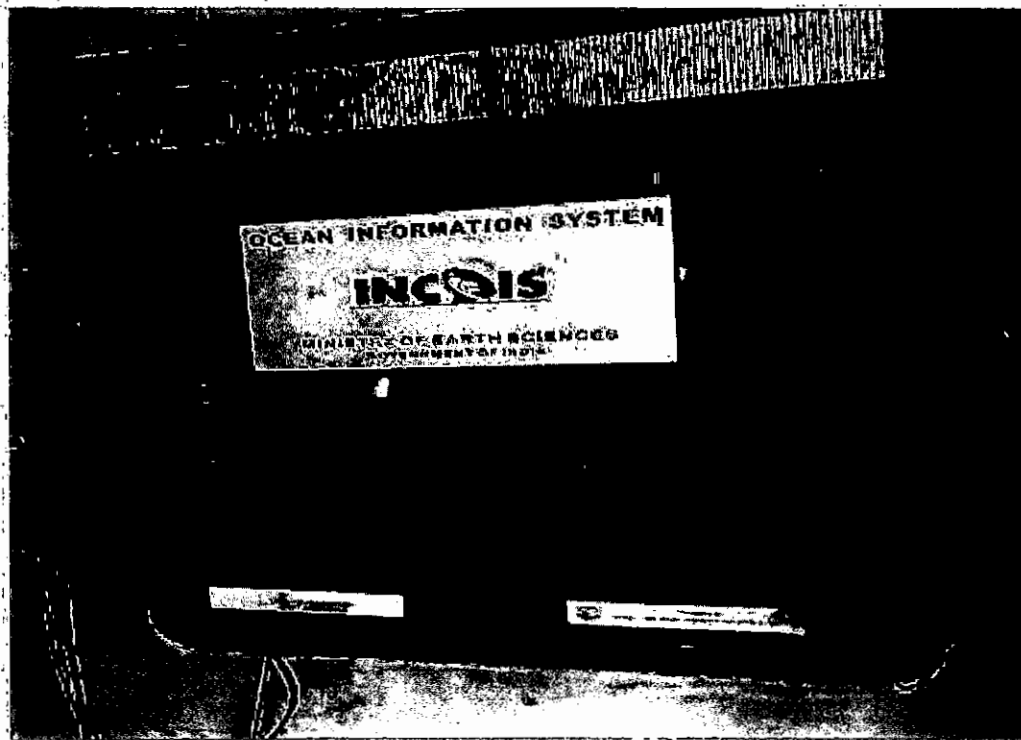
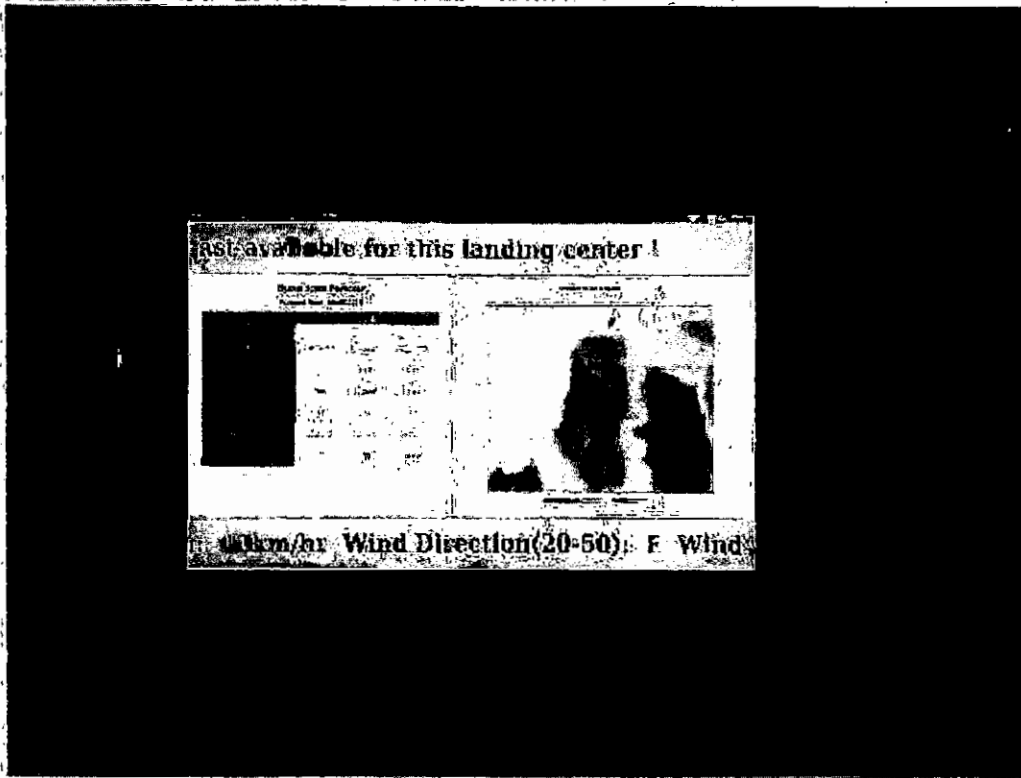
**Environment Expenditure Details Oct' 2019-Mar' 2020**

<b>S.no</b>	<b>Activity/Category</b>	<b>Expenditure in lacs</b>
01	Environmental Study / Audit and Consultancy	4.93
02	Legal & Statutory Expenses	300.20
03	Environmental Monitoring Services	12.19
04	Hazardous Waste Management & Disposal	51.05
05	Treatment and Disposal of Bio-Medical Waste	1.92
06	Horticulture Expenses	98.30
07	O&M of Sewage Treatment Plant and Effluent Treatment Plant	7.05
08	Water Treatment Plant	35.04
09	Trawler hiring for forest department	7.56
10	Online display board	0.00
11	Port housekeeping (Environment)	7.50
12	Port housekeeping (Operation)	54.13
13	Mechanized Sweeping Machine	61.99
14	Boat for Shoreline study	0.21
15	Pest Control Work	4.98
16	O & M OWC machine	2.06

**ANNEXURE-VII**

**INCOIS BOARD**

**PICTURE OF INCOIS ELECTRONIC DISPLAY BOARD INSTALLED  
AT DHAMRA FISHING HARBOUR**



**ANNEXURE-VIII**  
**KANIKA ISLAND CONSERVATION PLAN**  
**APPROVED LETTER**

**adani**<sup>TM</sup>

Receipt  
To  
9/10/18  
of Rs 40 Lacs  
of Bhadrak (WD) Division

DPCL/ENV/DFO/2018-140

Date: 01.10.2018

To

The Divisional Forest Officer,  
Bhadrak Wildlife Division,  
At./Po. Chandbali,  
Bhadrak, Odisha - 756133


Sub: Release of fund for Conservation of Kanika Sand Island

Ref: Your office letter no. 1889 dated 28.05.2018  
DPCL letter no. DPCL/ENV/DFO/2018-113 dated 09.07.2018

Dear Sir,

This is in reference to the above cited subject and reference. It is to inform you that an amount of ₹ 40 Lakhs as part of first year fund contribution for conservation of Kanika Sand Island was transferred to DFO Bhadrak Wildlife Division, SBI Bank, Chandbali (A/c. 37903083739) on 24.09.2018. You are requested to kindly acknowledge the receipt of fund.

Thanking You,  
Yours Sincerely



Krishna Kumar  
Head - Environment

The Dhamra Port Company Ltd  
(A Wholly Owned Subsidiary of APSEZL)  
At: Dosinga, PO: Dhamra  
Bhadrak 756 171  
Odisha, India  
CIN: U45205OR1998PLC005448

Tel +91 674 230 4500  
Fax +91 674 230 3828  
info@adani.com  
www.adani.com

**OFFICE OF THE  
DIVISIONAL FOREST OFFICER, BHADRAK WILDLIFE DIVISION,  
AT/P.O/P.S.-CHANDBALI, DISTRICT-BHADRAK, PIN-756133  
Phone/Fax- 06786-220472, Mob- +91 9437041541, Email-dfobhadrakwl.od@gov.in**

**Letter No. 1889/3F-192/2018, Dated 28/05/2018**

To, The Chief Executive Officer,  
Dhamara Port Company Limited,  
At-Dosinga, P.O-Dhamara, Dist-Bhadrak.

Sub: Phase-II Expansion of Dhamara Port- Compliance to OCZMA recommendation and Expert Appraisal Committee (EAC) observation- Kanika Sand Conservation Plan-reg.

Ref This office letter no. 1734 dated.15.05.2018.

Sir,  
In inviting a reference to this office letter number cited above and No. EE-16/2018-10054/F&E dated 01.05.2018 of the Forest and Environment Department, as requested vide your letter no. DPCL/Env/DFO/2018-102 dated 28.05.2018, enclosed please find herewith a copy of the amended conservation plan for Kanika Sand Island prepared at this end after incorporation of necessary changes in the plan as suggested by the PCCF (WL) & Chief Wildlife Warden, Odisha during presentation of the plan at his office on 08.02.2018.

Further, in partial modification to this office letter no cited above, it is to intimate you that the cost of 1<sup>st</sup> year operation comes to Rs.141.70 lakhs which is mentioned in Chapter-V of the said conservation plan.

Accordingly, you are requested to be in readiness for release of funds for the first year to the undersigned for implementation of the conservation plan at this end.

Yours faithfully,

  
Divisional Forest Officer,  
Bhadrak Wildlife Division.

Memo No. Dt.

Copy forwarded to the Principal Chief Conservator of Forests (WL) & Chief Wildlife Warden, Odisha, Bhubaneswar in continuation to this office memo no.1867 dt.25.05.2018 for necessary instruction on modalities for implementation of the conservation plan as requested by the undersigned.

Divisional Forest Officer,  
Bhadrak Wildlife Division.

Memo No. Dt.

Copy forwarded to the Additional Principal Chief Conservator of Forests (Forest Diversion & Nodal Officer, F.C Act) O/o the Principal Chief Conservator of Forests, Odisha, Bhubaneswar for favour of kind information and necessary in continuation to this office memo no.1868 dt.25.05.2018.

Divisional Forest Officer,  
Bhadrak Wildlife Division.

Memo No. Dt.

Copy alongwith a copy of the revised conservation plan as amended during the presentation at the O/o the Principal Chief Conservator of Forests (WL) & Chief Wildlife Warden, Odisha, Bhubaneswar held on 08.02.2018 forwarded to the Regional Chief Conservator of Forests, Bhubaneswar Circle for favour of kind information and necessary action in continuation to this office memo no.1869 dt.25.05.2018.

Divisional Forest Officer,  
Bhadrak Wildlife Division.



ଖଣ୍ଡାକ ବନାଧିକାରୀ, ଭଦ୍ରକ ବନ୍ୟପ୍ରାଣୀ ବନଖଣ୍ଡ, ଚାନ୍ଦବାଲିକ କାର୍ଯ୍ୟାଳୟ  
OFFICE OF THE DIVISIONAL FOREST OFFICER, BHADRAK WILDLIFE DIVISION,  
AT/P.O.P.S.-CHANDBALI, DISTRICT-BHADARAK, PIN-756133  
Phone/Fax- 06786-220472, Mob- +91 9437041541, Email-[dfobhadrakwl.od@gov.in](mailto:dfobhadrakwl.od@gov.in)

Letter No. 3148 -IF- 956/2018, Dated, Chandbali the 31<sup>st</sup>, August, 2018

To

The Chief Executive Officer,  
Dhamara Port Company Limited,  
A1 - Dosinga, Post - Dhamara, Dist - Bhadrak.

Sub:

Implementation of Conservation Plan of Kanika Island.  
-regarding Placement of Funds.

Ref:

1. Memo No. 17845 dated 14.08.2018 of Senior Scientist, Forest & Environment Dept., Govt. of Odisha to your address.
2. Your Office Letter No. 113 dated 09.07.2018.

Sir,

With reference to above cited memo on the captioned subject, it is to intimate you that an exclusive Savings bank Account with following details has been opened by the undersigned as per instructions issued by Forest & Environment Dept., Govt. of Odisha vide their letter under reference for implementation of Conservation Plan of Kanika Sand Island.


An early action is requested.

Account Details:

Account Name: DFO BHADRAK WILDLIFE DIVISION  
Bank Name: State Bank of India  
Branch Name: Chandbali  
Account No: 37903083739  
IFSC: SBIN0002039  
Mobile No: 9437041541

You are requested to place funds as per annual breakup of cost in the approved project proposal.


Yours faithfully,

  
Divisional Forest Officer,  
Bhadrak (WL) Division.

Memo No. 3149

Date- 31/08/2018

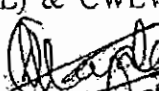
Copy forwarded to the Senior Scientist, Forest & Environment Dept., Govt. of Odisha for favour of kind information.

  
Divisional Forest Officer,  
Bhadrak (WL) Division.

Memo No. 3150

Date- 31/08/2018

Copy forwarded to the Principal CCF (WL) & CWLW, Odisha for favour of kind information.

  
Divisional Forest Officer,  
Bhadrak (WL) Division.

**ANNEXURE-IX**  
**ACKNOWLEDGE COPY OF DFO, WILD**  
**LIFE DIVISION**



ଖଣ୍ଡର ବନାଧିକାରୀ, ଭଦ୍ରକ ବନ୍ୟପ୍ରାଣୀ ବନଖଣ୍ଡ, ଚାନ୍ଦବାଲିଙ୍କ କାର୍ଯ୍ୟାଳୟ

OFFICE OF THE DIVISIONAL FOREST OFFICER, BHADRAK WILDLIFE DIVISION,  
AT/P.O/P.S.-CHANDBALI, DISTRICT-BHADRAK, PIN-756133

Phone/Fax- 06786-220472, Mob- +91 9437041541, Email-[dfobhadrakwl.od@gov.in](mailto:dfobhadrakwl.od@gov.in)

Letter No. ୫୧୮୧ -IF-256/2018, Dated, Chandbali the ୨୦, November, 2018

To

The Chief Executive Officer,  
Dhamara Port Company Limited,  
At – Dosinga, Post – Dhamara, Dist – Bhadrak.

Sub: Release of funds for Conservation Plan of Kanika Island.  
-regarding acknowledgement of receipt of funds.

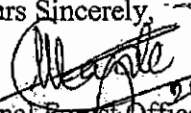
Ref: Your Office Letter No. 140 dt. 01.10.2018.

Sir,

In inviting a reference to the above captioned subject, it is to inform you that an amount of ₹. 40,00,000/- (Rupees Forty Lakh) only has been received in the State Bank of India, Chandbali Branch, A/c No. 37903083739 on 25.09.2018.

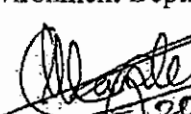
This is for favour of information & necessary action.

Yours Sincerely,

  
Divisional Forest Officer,  
Bhadrak (WL) Division.

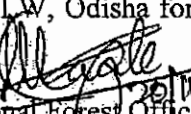
Memo No. ୫୧୮୨ Date- ୨୦-୧୧-୨୦୧୮

Copy forwarded to the Senior Scientist, Forest & Environment Deptt., Govt. of Odisha for favour of kind information.

  
Divisional Forest Officer,  
Bhadrak (WL) Division.

Memo No. ୫୧୮୩ Date- ୨୦-୧୧-୨୦୧୮

Copy forwarded to the Principal CCF (WL) & CWLW, Odisha for favour of kind information.

  
Divisional Forest Officer,  
Bhadrak (WL) Division.



ବନଖଣ୍ଡ ଅଧିକାରୀଙ୍କ କାର୍ଯ୍ୟାଳୟ, ଭଦ୍ରକ ବନ୍ୟପ୍ରାଣୀ ବନଖଣ୍ଡ, ଚାନ୍ଦବାଲି ।

OFFICE OF THE DIVISIONAL FOREST OFFICER, BHADRAK WILDLIFE DIVISION,  
AT/P.O/P.S.-CHANDBALI, DISTRICT-BHADRAK, PIN-756133

Phone/Fax- 06786-220472, Mob- +91 9437041541, Email-[dfobhadrakwl.od@gov.in](mailto:dfobhadrakwl.od@gov.in)

Letter No 1346 - 1F- 256/2018, Dated. Chandbali the 16<sup>th</sup> April, 2020

To

The Chief Executive Officer,  
Dhamara Port Company Limited,  
At - Dosinga, Post - Dhamara, Dist - Bhadrak.

Sub: Release of funds for Conservation Plan of Kanika Island.  
-regarding acknowledgement of receipt of funds.

Ref: Your Office Letter No. 42 dated. 07.04.2020.

Sir,

In inviting a reference to the above captioned subject, this office acknowledges that an amount of ₹. 50, 00,000/- (Rupees Fifty Lakh) only & another amount of ₹. 50,00,000/- (Rupees Fifty Lakh) only as 2<sup>nd</sup> & 3<sup>rd</sup> installment for Conservation Plan of Kanika Island has been posted respectively in the A/c No. 37903083739 of State Bank of India, Chandbali Branch on dt. 23.12.2019 & 05.03.2020.

This is for favour of information & necessary action.

Yours Sincerely,

  
Divisional Forest Officer,  
Bhadrak (WL) Division.

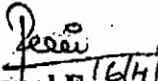
Memo No. 1347 Date- 16/04/2020

Copy forwarded to the Senior Scientist, Forest & Environment Deptt., Govt. of Odisha for favour of kind information.

  
Divisional Forest Officer,  
Bhadrak (WL) Division.

Memo No. 1348 Date- 16/04/2020

Copy forwarded to the Principal CCF (WL) & CWLW, Odisha for favour of kind information.

  
Divisional Forest Officer,  
Bhadrak (WL) Division.

**ANNEXURE-X**  
**CONSENT TO ESTABLISH PHASE-II**



BY REGD POST

**OFFICE OF THE  
STATE POLLUTION CONTROL BOARD, ODISHA**

Parivesh Bhawan, A/118, Nilakantha Nagar, Unit-VIII,  
Bhubaneswar - 751 012

No. 2615 /

Ind-II-NOC - 5659

Date 19.02.13 /

**OFFICE MEMORANDUM**

In consideration of the application for obtaining Consent to Establish of **M/s. Dhamra Port Company Ltd.**, the State Pollution Control Board is pleased to convey its Consent to Establish under section 25 of Water (Prevention & Control of Pollution) Act, 1974 and section 21 of Air (Prevention & Control of Pollution) Act, 1981, for expansion(Phase-II) of **Dhamra Port Company Ltd.** for additional cargo handling capacity of **71.3 MTPA & 1 million TEU** containers cargo with following **Berthing facilities and Cargo handling capacities**

Berthing facilities and cargo handling capacity	<ul style="list-style-type: none"><li>• Three berths for dry bulk cargo<ul style="list-style-type: none"><li>- Coal : 22.3 MTPA</li><li>- Iron Ore : 12.3 MTPA</li><li>- Limestone, manganese and other non-hazardous 1.74 MTPA</li></ul></li><li>• Four berths for break bulk cargo and general cargo : 8.0 MTPA</li><li>• Two liquid / gas cargo jetties<ul style="list-style-type: none"><li>- Crude Oil : 10.0 MTPA</li><li>- POL products : 2.5 MTPA</li><li>- Naptha : 2.46 MTPA</li><li>- LNG : 12.0 MTPA</li></ul></li><li>• Two berths for container cargo (1 mission TEU)</li><li>• One barge facility</li><li>• One mooring facility for transloading operation</li></ul>
---	--

at **Dosinga, Tehsil- Chandbali** (plot nos & khata nos. as mentioned in application form) in the district of **Bhadrak** with the following conditions.

## **GENERAL CONDITIONS.**

- 1. This Consent to establish is valid for the Cargo Handling capacity & containers cargo mentioned in the application form. This order is valid for five years, which means the proponent shall commence construction of the project within a period of five years from the date of issue of this order. If the proponent fails to do substantial physical progress of the project within five years then a renewal of this consent to establish shall be sought by the proponent.**
- 2. Adequate effluent treatment facilities are to be provided such that the quality of sewage and trade effluent satisfies the standards as prescribed under Environment Protection Rule, 1986 or as prescribed by the Central Pollution Control Board and/or State Pollution Control Board or otherwise stipulated in the special conditions.**
- 3. All emission from the industry as well as the ambient air quality and noise shall conform to the standards as laid down under Environment(Protection) Act. 1986 or as prescribed by Central Pollution Control Board/State Pollution Control Board or otherwise stipulated in the special conditions.**
- 4. Appropriate method of disposal of solid waste is to be adopted to avoid environmental pollution.**
- 5. The industry shall comply to the provisions of Environment Protection Act, 1986 and the rules made there under with their amendments from time to time such as the Hazardous Waste Management, Handling & Transboundary Movement Rules 2008, Hazardous Chemical Rules, /Manufacture, Storage and Import of Hazardous Chemical Rules, 1989 etc. and amendments there under. The industry shall also comply to the provisions of Public Liability Insurance Act, 1991, if applicable.**
- 6. The industry shall apply for grant of Consent to operate under section 25/26 of Water(Prevention & Control of Pollution)Act, 1974 & Air (Prevention & Control of Pollution)Act, 1981 at least 3 (three) months before the commercial production and obtain Consent to Operate from this Board.**
- 7. This consent to establish is subject to statutory and other clearances from Govt. of Odisha and/or Govt. of India, as and when applicable.**

## **SPECIAL CONDITIONS :-**

- 1. The proponent shall obtain Environmental and CRZ clearance and construction activity for the expansion proposal shall commence after obtaining environment and CRZ clearance.**
- 2. The proponent shall obtain forest clearance if forest land is involved in the project area.**
- 3. The consent to establish is given for the above mentioned capacity. Any further expansion in the capacity, any change, addition or alternation of any nature has to be under taken with prior approval of the Board.**
- 4. The impact on marine ecology during the construction phase would be largely confined to the duration over which the activities are spread. Hence, the key factor in minimising the adverse impacts would be the reduction in the construction period at the site.**

5. The socio-economic study especially related to fishing, infrastructure development etc. needs to be studied. Certainly, a large scale infrastructure like road network, railways, power lines etc. will develop in the vicinity of area due to this project.
6. It is also suggested that monitoring of the marine environment during dredging and post – dredging need to be carried out and to carry out necessary corrective measures to conserve the marine environment.
7. Vehicles hired for bringing construction material at site should be in good condition and should have valid **Pollution Under Check (PUC)** certificate and to conform to applicable air and noise emission standards and should be operated only during non-peaking hours.
8. The inter tidal and near shore areas shall be restored to their original contours once the construction activities are completed. General clean – up along the corridor used for construction related activities, adjacent inter tidal areas, creeks etc. shall be undertaken and all the discarded materials must be removed from the site and aesthetic quality of the surroundings restored, once the construction operations are completed.
9. Details of the construction activities that are to be taken up in the CRZ area shall be submitted to the Board.
10. An effective wastes collection, treatment and disposal mechanism should be evolved for incoming ships as well as waste generated within the port that include ballast and bilge water, solid waste, cargo waste, kitchen waste, toilet effluent, packing materials, floating debris, construction left over materials etc. A detail management plan to this effect shall be submitted to the Board.
11. The spillage of bulk items should be minimized as these materials reach the dock waters, which sometimes accumulate in the sediments. These pollutants and metals may mobilized by microbes or bottom disturbances and get back into the dock waters and ultimately reach water body.
12. Effective monitoring system should be evolved to check the release of spillage of oil into the dock waters, estuary and near shore water by ship and also during transportation. Proper collection and treatment facilities should be provided for proper treatment and disposal after achieving the standards.
13. Strict prohibition shall be practiced against the discharge of ballast water and sediment in the dock water, estuarine / near shore waters to prevent introduction of exotic microorganisms including pathogens in the local waters.
14. The monitoring of the marine environment during dredging and post – dredging over a period shall be carried out and the corrective measures shall be taken to conserve the marine environment.
15. Steps should be taken towards the maintenance of health of the study area, critical locations are to be carefully selected and designed as monitoring sites for periodic monitoring with respect to water quality, sediment quality and flora and fauna.
16. Temporary colonies of work force should be established sufficiently away from the High Tide Line and proper sanitation including toilets and bathrooms are to be provided to the inhabitants to prevent abuse of the inter tidal area. Sewage and other wastes generated in these settlements should not be released to the creek. Work force should be provided with adequate fuel to discourage them from cutting nearby tree for firewood.
17. As a first important step towards the maintenance of health of the marine ecology of the study area, critical locations are to be carefully selected and designated as monitoring sites for periodic monitoring with respect to water quality, sediment quality and flora and fauna shall be carried out.
18. Details of drainage system in the berth and stack yard and the effluent treatment plant shall be provided in order to treat the discharge/runoff form the stack yard.



19. Domestic effluent generated from colony and port area shall be treated in sewage treatment plant and treated waste water shall meet prescribed standard such as **pH=6.5-8.0, SS=50mg/l, BOD=30mg/l & O&G=5mg/l** for discharge into inland surface water before reuse for plantation.
20. The surface run off from open stack yards and mineral handling area shall be collected and adequately treated to meet prescribed standard for inland surface water before discharge to river.
21. Leachate from storage of chemicals and other materials having toxic content if any shall be collected and treated properly. Care shall be taken to prevent the ground water contamination
22. Water sprinkling, use of wind barriers and covered conveyer at various stages of coal handing should be practiced. Other exhaust arrangement and bag filter may be included to minimize SPM content. While loading and unloading coal and other bulk materials through grab and conveyers, the dropping height shall be minimized.
23. Open storage yards for dust prone materials should be surrounded with green belt. Plantation and development of lawns shall be undertaken to minimize the effect of dust and noise.
24. The pollution caused by coal / iron ore is aggravated by its dispersal with winds. Since the wind in the area is strong it is recommended that the coal / iron ore should be sprinkled with water so as to reduce the chances of the dust dispersed over a large area including the sea/river.
25. Details of transportation and its impact during transportation of the stones and other construction material for the construction of the groynes breakwaters and other Port facilities shall be submitted to the Board.
26. Adequate dust suppression and or extraction system shall be installed at all potential dust generating points in ore/mineral handling system to minimize fugitive emission.
27. The collection and handling of raw materials shall be carried out in closed conveyor so that fugitive emission will be minimum.
28. Adequate fire fighting system shall be adopted at the coal stock yard to control fire hazard if any.
29. The noise level during pilling, transport and erection of structures etc. shall be kept to a minimum through proper lubrication, muffing and modernization of equipments.
30. To minimize noise and vibration, heavy machinery should be properly installed and maintained. Personal protection in the form of earplugs should be made available to the workers, who are exposed to the high noise areas like workshop, dumper house, crane operation, tipper shop etc.
31. An effective oil spillage containment and management plan should be evolved with the involvement of various agencies like Port, Pollution Control Board, Indian Coast Guard Oil Companies etc.
32. Mechanisms should be evolved for proper monitoring, effective handling and transportation of hazardous chemicals. The mechanism for import of hazardous wastes may be strengthened with involvement of the State Pollution Control Boards.
33. On site living rooms of workers and the gas storage should be well apart to minimize the risk of accidents. Adequate safety measures including provision of gas mask and ear plugs during cutting operation and medial treatment facilities for workers in case of accidents should be ensured. The working place shall be provided with better sanitation facilities.
34. Sectorwise follow – up of some '**DO & DONTs**' by the ground workers should be made mandatory for better maintenance of material and machines to ensure prevention of hazards / accidents to some extent.

35. A comprehensive Disaster Management Plan should be formulated involving concerned agencies considering various aspects like containment of large scale oil spillage, accidental hazards arising from handling of dangerous / inflammable cargoes as well as natural calamities.
36. 'Good House Keeping' is the most important area of concern and it should be attained by developing available human resources through conducting routine in house workshops on different activities for the betterment of the environment and welfare of the workers and organization.
37. Comprehensive structure of "Environmental Management Cell" and the infrastructure facilities to be developed etc are to be detailed.
38. **Present & post project land use pattern of acquired land is to be prepared and submitted to the Board for reference.**
39. **Details of water resources for construction and operation of the project and approval from the Competent Authority for drawal of water is to be obtained and submitted to the Board.**
40. **Spoils generated from dredging activity should be cautiously disposed off in a proper manner to avoid contamination as recommended in the EIA.**
41. Proper management of spoil disposal shall be adopted so that handling of waste and dredging shall be kept of minimum.
42. Maximum precaution shall be taken to minimize spreading of sediments to the surrounding area which will otherwise increase turbidity in the river.
43. Rain water harvesting shall be followed by utilizing the rain water collected from the roof of the administrative buildings for recharging of ground water within the premises as per the concept and practices prescribed by CPCB.
44. The civil construction shall be carried out with the fly ash bricks. If the fly ash bricks are not available locally the civil construction may be carried out with other bricks with prior intimation to the concerned Regional Office of SPC Board. A quarterly statement indicating the use of fly ash bricks during civil construction shall be submitted to the Board for record.
45. **Road – connectivity shall be developed by the port Authority. Fly ash shall be used for road development. Agreement with power plants shall be made for lifting of ash from power plant.**
46. The port authority shall develop a green belt along its boundary and vacant areas available inside the premises.
47. The port authority shall take up adequate measure for routine health check up of its employees / workers and the people residing in the neighborhood of the plant free of cost.
48. The ambient air quality including noise shall be within the prescribed norms of Environment Protection Act, 1986 for industrial area and at least 04 continuous ambient air quality monitoring stations around the port premises shall be set up to monitor Suspended particular matter, SO<sub>2</sub>, NO<sub>x</sub>, CO and other important parameters within at least to the distance in down wind direction and where maximum ground level concentration is anticipated. The exact location of the monitoring stations shall be finalized in consultation with the State Pollution Control Board.
49. The ballast should be scientifically disposed.
50. Separate application shall be made to obtain letter of authorization for disposal of all hazardous wastes under Hazardous Waste Management, Handling and Transboundary Movement Rules 2008 and amendment thereafter.
51. All compliance shall be made with respect to manufacture, storage and import of Hazardous Chemical Rule, 1989 & amended thereafter and other provisions of the Environment Protection Act, 1986.

52. The sea water in the harbour area shall meet the water quality criteria for SW-IV class of sea water as given below :

- |    |  |   |  |
|----|--|---|--|
| a) | pH   | : | 6.5 – 9.0  |
| b) | Dissolved oxygen   | : | 3.0 mg/l or 40% of saturation value whichever is high. |
| c) | Colour and odour   | : | No visible colour or offensive odour                   |
| d) | Floating matter, Oil & grease and scum including petroleum product | : | 10 mg/l  |
| e) | Fecal coliform   | : | 500 MPN/100 ml   |
| f) | BOD (3 days) at 27°C   | : | 5 mg/l   |

53. The Board may impose further conditions or modify the conditions stipulated in this order during installation and /or at the time of obtaining consent to operate and may revoke this clearance in case the stipulated conditions are not implemented and /or any information suppressed in the application form.

To,

✓  
Cdr. Anil Kumar Kar,  
M/s. Dhamra Port Copmany Ltd.,  
Fortune Towers, 2<sup>nd</sup> Floor,  
Chandrasekharpur,  
Bhubaneswar-751023, Odisha

*SSA*  
*19/12/13*  
**MEMBER SECRETARY**

Memo No. \_\_\_\_\_ /Dt \_\_\_\_\_

Copy forwarded to :

1. The Director (Env.)-cum-Special Secretary to Govt., Forest & Env. Deptt., Govt. of Orissa
2. The District Magistrate & Collector, Bhadrak
3. District Industries Centre, Bhadrak
4. The Director, Factories & Boiler, Bhubaneswar
5. Sr. Env. Engineer (N), HSM Cell, SPC Board, Bhubaneswar
6. DFO, Bhadrak
7. Consent section, SPC Board, Bhubaneswar
8. Regional Officer, SPC Board, Balasore
9. Copy to Guard file

✓  
**SR. ENV. ENGINEER(N)**

**ANNEXURE-XI**

**PERMISSION LETTER FROM DFO TO**

**CARRY OUT THE PLANTATION IN**

**FOREST VILLAGE**

**OFFICE OF THE  
DIVISIONAL FOREST OFFICER, BHADRAK WILDLIFE DIVISION,  
AT/P.O/P.S.-CHANDBALI, DISTRICT-BHADRAK, PIN-756133  
Phone/Fax- 06786-220472, Mob- +91 9437041541, Email-dfobhadrakwl.od@gov.in**

Letter No. 2678/3F-161/2013, Dated 24 /07/2018

To,

The Chief Executive Officer,  
Dhamara Port Company Limited,  
At-Dosinga, P.O-Dhamara, Dist-Bhadrak.

Sub:

Expression of interest by DPCL for plantation of trees in village forest land adjacent to the port boundary as per stipulation of Environment and CRZ clearance for expansion of Dhamara Port.

Ref:

Your Office letter No. DPCL/ENV/DFO/2018-112 Dated 09.07.2018 and Letter No. 1600/Rev dated 26.06.2018 of Addl. District Magistrate, Bhadrak in your office address & this Office memo no.325 dt.18.01.2018.

Sir,

In inviting a reference to aforesaid subject and memo under reference, you may go ahead with plantation of trees in village forest land adjacent to the port boundary as per scheme submitted by you in consultation and supervision of the Range Officer, Chandbali Wildlife Range adhering to the stipulation of Environment and CRZ clearance issued by MoEF vide letter F.No.11-104/2009-IA-III dated 01.01.2014.

Yours faithfully,

  
24/07/18  
Divisional Forest Officer,  
Bhadrak Wildlife Division.

Memo No. 2679 Dated. 24.07.2018

Copy forwarded to the Addl. District Magistrate, Bhadrak for information and necessary action with reference to his office memo no.1601/Rev dtd.26.06.2018

  
24/07/18  
Divisional Forest Officer,  
Bhadrak Wildlife Division.

Memo No. 2680 Dated. 24.07.2018


Copy forwarded to the Range Officer, Chandbali (WL) Range for information and necessary action. He is instructed to inspect the plantation project of DPCL and submit report on achievement of plantation work fortnightly.

  
24/07/18  
Divisional Forest Officer,  
Bhadrak Wildlife Division.

**ANNEXURE-XII**  
**PUBLIC HEARING COMPLIANCE**

**STATEMENT OF ISSUES RAISED BY THE PUBLIC AND COMMENTS OF THE APPLICANT DURING THE PUBLIC HEARING MEETING HELD ON 03.07.2012 (AT 11.00 A.M.) IN THE PREMISES OF CYCLONE SHELTER AT DOSINGA VILLAGE IN RESPECT OF THE ENVIRONMENTAL ASSESSMENT FOR PROPOSED PHASE -II EXPANSION OF DHAMRA PORT AT DHAMRA IN THE DISTRICT OF BHADRAK**

ISSUES RAISED BY PUBLIC	COMMITMENT OF PROJECT PROPONENT
The issues raised at the public hearing meeting are as follows:	Sri Santosh Kumar Mohapatra, Chief Executive Officer (CEO) of M/s Dhamra Port Company Limited, addressed the issues raised by the public as follows:
1. Air pollution due to fugitive coal dust	1. Such fugitive coal dust did occur briefly during the winter of 2011 which was the first year of port operation. The sprinkling system was quickly augmented on the south side of the stack yard and the occurrence stopped. The same shall be followed and incorporated in the Environment Management Plan.
2. Damage to paddy crop by road side lights.	2. The road side lights have been readjusted to prevent lights falling on the paddy crop. The same shall be incorporated in the EMP.
3. Water logging	3. The area being a low lying flat land, it is subjected to water logging during heavy storms. Based on the experience of the first year the port has significantly improved the drainage system in and around the port area which is expected to prevent such occurrence in future.
4. Discharge of sewage to agriculture field	4. Although this was mentioned by one of the speakers, DPCL has not received any report or complaint about such discharges. The port has a full-fledged Sewage Treatment Plant within its own area, where the treated water from STP is meeting all standards and is being monitored regularly.
5. Green Belt Development	5. The port has already planted 1.23 lakh trees in the port area and 1.4 lakh trees along the rail road corridor in the phase I development. It is proposed to cover 84 hectares additionally in the phase II expansion. Details of green belt development has been incorporated in para 10.4.6. of EIA - EMP.
6. Employment	6. DPCL has complied with the guideline of Govt. of Odisha R. & R Policy with regard to employment of the local people. Out of 1768 total employment in different category 905 are from Bhadrak District, 611 are from other districts of Odisha and 252 from outside Odisha. However during discussion with regard to restricting employment to locals DPCL agreed to abide by the Government decision with regard to definition of local area.
7. Fish drying platform	7. DPCL is committed to creating necessary facilities for fish drying after required land is made available to it by the Government/district authorities.
8. Compensation of Land to be acquired.	8. For Phase II expansion of the port government land only is to be acquired in between the High Tide Line and Low Tide Line, where neither habitation nor any private land is situated. However for the residual acquisition for Phase I, the compensation as decided by government will be paid.
9. Grave Yard and grazing field.	9. There is no grave yard or grazing land in the proposed land to be acquired in between High Tide Line and Low Tide Line for phase II expansion. However DPCL will develop cremation facility in consultation with the local people in a need based manner.
10. Communication, Education & Training, Hospital, Veterinary facility, Drinking water, Sanitation and Irrigation facility	10. These facilities will be taken up in a phased manner as a part of DPCL's CSR initiative in consultation with the people and the district administration for which Rs. 50 Cores is being allocated.

  
**Santosh K Mohapatra**  
 CEO  
 The Dhamra Port Company Limited  
 2nd Floor, Fortune Towers  
 Chandrasekharpur  
 Bhubaneswar-751 023

**ANNEXURE-XIII**  
**EMP & ACTION PLAN**



**ANNEXURE-XIII- EMP & ACTION PLAN**

S. No.	Activity	Relevant Environmental components likely to be impacted	Likely Impacts in absence of Mitigation Measures	Mitigation Measures	Compliance
<b>Constructional Phase</b>					
1.	Development / Expansion of Port	Existing land use	Impact on nearby mangrove areas	<p>Scattered mangroves identified near southern boundary of the port in phase I development needs to be conserved.</p> <p>The port boundary will be at a minimum distance of 50 m from the mangrove area on the northern side. Awareness will be created amongst port workers about the importance of mangroves and their conservation</p>	<p>Scattered mangroves identified near southern boundary of Phase I development spread over an area of 9 ha. are being conserved by fencing. Bamboo Fencing has been done at southern boundary over 9 ha. For conservation of mangroves.</p> <p>A buffer of 50 m is being maintained between the project boundary and mangrove vegetation.</p> <p>Awareness programs for mangrove conservation for port workers are being undertaken</p>
		Impact on turtle nesting	Glare of Port Light may cause disturbance to hatchlings	<p>Install specialized illumination system in line with "International Dark Sky Association (IDA)" to avoid illuminating the sky or focusing light towards sea.</p> <p>Mercury vapour and metal halides will not be used Sodium vapour lamps will be used</p>	<p>DPCL has already implemented the suggested mitigation measures during Phase I &amp; Phase-II and these measures shall also be implemented during Revised Master Plan.</p>
2.	Capital dredging	Marine water quality	Increase in turbidity	Checking of turbidity levels with	DPCL regularly monitors the turbidity

	and reclamation		Change in marine water	baseline levels as reference during entire monitoring programme	levels as a part of marine Environmental monitoring by NABL & MOEFCC accredited organization to ensure that the turbidity levels are well within the baseline level.
3.	Material transport and construction activities	Air Quality	Exhaust emissions from vehicles Dust suspension during site preparation and construction	<p>Providing adequately sized construction yard for storage of construction materials, equipment tools, earthmoving equipment, etc</p> <p>Provide enclosures on all sides of construction site</p> <p>Movement of material will be mostly during non-peak hours.</p> <p>On-site vehicle speeds will be controlled to reduce excessive dust suspension in air and dispersion by traffic Construction equipment and transport vehicles will be periodically washed to remove accumulated dirt</p> <p>Water sprinkling will be carried out to suppress fugitive dust</p> <p>Environmental awareness training will be imparted to personnel involved in developmental works</p>	<p>We have a regular air monitoring protocol twice in a week to ensure air quality parameters never exceed the prescribed limit.</p> <p>Vehicular Traffic Speed is kept limited to 20 kmph.</p> <p>Regular water sprinkling on roads are being carried out by water tankers.</p> <p>Mechanized &amp; manual sweeping is being carried out on regular basis for cleaning of the road.</p> <p>Environment Awareness/training programme is being conducted on regular basis by Environment Department to personnel involved in development works.</p>

		Noise	<p>Noise from following activities</p> <p>Vehicles transporting construction material</p> <p>Diesel run engines of construction machinery and dredgers</p> <p>Pile driving activities during construction of cargo berths</p>	<p>Procurement of machinery / construction equipment will be done in accordance with specifications conforming to source noise levels less than 85 dB (A)</p> <p>Well-maintained construction equipment, which meets the regulatory standards for source noise levels, will be used</p> <p>Noise attenuation will be practiced for noisy equipment by employing suitable techniques such as acoustic controls, insulation and vibration dampers</p> <p>Personnel exposed to noise levels beyond threshold limits will be provided with protective gear like earplugs, muffs, etc.</p> <p>Ambient noise levels will be monitored</p>	<p>We have a strict maintenance regimen for all plant machinery and equipment which is reviewed by the management every day.</p> <p>PPE's like Earplug, muffs are being used in noise prone areas.</p> <p>Noise level monitoring is being carried out by a MoEF &amp; CC accredited agency.</p>
		Disturbance to Natural Drainage pattern	Impact to natural flow of runoff due to blockage and change of drainage course	Adequate storm water drainage system will be provided. If natural drainage disturbed, it will be reinstated	Storm Water drainage network is planned to facilitate proper drainage of the area and requirement of local villagers for tides water and boat movement has been duly considered in the drainage plan.
		Vegetation and Strain on existing	Loss of vegetation and strain on existing infrastructure	<p>There will be no loss of vegetation as the area does not contain any tree growth.</p> <p>Temporary workers camp will be provided with sufficient infrastructure and other provisions</p>	Workers camp have been provided with sufficient infrastructure and electricity.
		Existing Traffic	Traffic addition	The existing road will be strengthened to cater the increased traffic	Government of Odisha has already started widening this road to a two

					lane road with paved shoulder which shall cater the increased traffic
4.	Land Reclamation	Existing Water Resources like Groundwater and surface water	<p>The land reclaimed is saline mud and is separated from the adjoining land mass through the salt dyke.</p> <p>This being an intertidal zone, there will be no impact on groundwater quality</p>	<p>Protective bunds (salt dyke) already exists which will prevent inundation of salt water to the adjoining land.</p> <p>Return seawater will be channeled back to sea.</p>	Reclamation activity is being done within reclamation bunds and it is physically separated from the adjoining land mass.
5.	Solid Waste Management	Soil quality	Impacts due to disposal of solid waste on ground	<p>Construction waste will be used within port site for filling of low lying areas.</p> <p>Composted bio-degradable waste will be used as manure in greenbelt. Other recyclable wastes will be sold.</p> <p>General refuse generated on-site will be collected in waste skips and separated from construction waste.</p> <p>Burning of refuse at construction sites will be prohibited.</p>	<p>Under the inspiration of Prime Ministers Clean India Mission APSEZ has developed a vision for making itself- "A Zero Waste Company" by the year 2020. APSEZs vision is based on adaptation of 5Rs principle of waste management, i.e Reduce, Reuse, Reprocess, Recycle, &amp; Recover.</p> <p>Construction waste generated was used in low lying areas as a standard practice.</p> <p>Bio- degradable waste is being used as manure for horticulture activities and for development of nursery</p> <p>Waste Segregation is being done at Point of Generation and Color Coded bins are in use in the Port Residential Area</p> <p>Burning of wastes is prohibited within the premises</p>

6.	Handling of hazardous wastes	Human safety and property loss	Accidents during construction	<p>Adequate safety measures as per OSHA standards will be adopted.</p> <p>Construction site will be secured by fencing with controlled/limited entry points.</p> <p>Hazardous materials such as lubricants, paints, compressed gases, and varnishes etc., will be stored as per the prescribed/approved (MSIHC) safety norms.</p> <p>Medical facilities including first-aid will be available for attending to injured workers.</p>	<p>DPCL had made an agreement with OSPCB approved vendor for collection of used oil. Vendor shall take care of treatment &amp; disposal at their site premises as per OSPCB norms.</p> <p>We have a strict safety regimen with the motto "Safety First"</p> <p>Safety Observations are mandatory from every department of the port and immediate measures are undertaken to rectify the shortcoming.</p> <p>OHSAS Guidelines and MSIHC Guidelines are followed for Hazardous wastes.</p> <p>First aid center has been provided for employees and workers inside the premises. Wellness center has been provided for villagers/worker.</p>
7.	Fishing	Fishermen and fishing villages	Impact on fishing due to Construction works	Signboards will be placed at the construction sites in order to make fishermen aware of the ongoing activities	Our navigational channel is well marked with marker buoys and fishermen community are regularly sensitized via our well-staffed CSR Team on Port Activities

S. No.	Activity	Relevant Environmental components likely to be impacted	Likely Impacts in absence of Mitigation Measures	Mitigation Measures	Compliance
<b>Operational Phase</b>					
1.	Cargo handling and Inland Cargo movement and storage areas	Air Quality	Emissions from loading/unloading equipment, DG sets, vehicular dust emissions, fugitive emissions from storage areas, spillage of cargo	Use of specialized ship loaders/unloaders, wagon tippler, covered conveyors and rapid loading system through silos  Dust suppression measures at loading/unloading points, wagon tippler complex, transfer points, stockyards, rapid loading system and at internal roads  Periodic cleaning of cargo spills and speed regulations for vehicles engaged in transportation	Noted & Complied
		Noise	Due to equipment handling and vehicular movement Ship (un)loading operations	Acoustic Barriers and Enclosures  Personal Protection Equipment (PPE)  Counseling and traffic regulation	Noted & Complied
		Traffic Addition	Cargo movement from/to port	A dedicated rail corridor of 62.5 km has been developed and cargo are being transported through rail. A dedicated four lane road and doubling of rail link along the rail corridor has been proposed in the Phase II	Majority of the cargo is being transport through mail.
2.	Aqueous	Marine water	Change in marine	Ships should comply with the MARPOL	Noted & Complied

	discharges in harbor basin	quality and ecology	water quality/ ecology due to discharge of ship wastes, sewage, ballast water, bilge water, solid waste etc.	<p>convention.</p> <p>As a mitigation measure for accidental spillages, Oil spill contingency plan will be implemented.</p> <p>Carrier will be required to exchange ballast water in a deep sea location prior to arrival in the harbor</p> <p>Provision of waste reception facility for bilge oily water and waste oil will be provided</p>	MARPOL & ballast Water Convention guidelines are enforced by DPCL for visiting Ship.
3.	Accidental Cargo and Oil spills	Marine water quality and ecology	Change in marine water quality	<p>In case of any cargo spillage during transfer from/to ships, it will be attempted to recover the spills.</p> <p>Oil spill control equipment such as booms / barriers will be provided for containment and skimmers will be provided for recovery.</p> <p>Response time for shutting down the fueling, containment and recovery will be quicker.</p>	<p>Noted &amp; Complied</p> <p>Marine water quality &amp; productivity is being monitored by MoEF &amp; CC accredited laboratory, there are no adverse impact on water quality and marine productivity in the vicinity. Ni impact on water quality &amp; marine productivity has been envisaged during this period</p> <p>Oil Spill Containment equipment in readiness.</p> <p>Oil Spill drills are conducted on a regular basis.</p>
4.	Maintenance dredging	Marine water quality	Increase in turbidity	<p>It will be ensured that the dumping of the maintenance dredge spoil would be uniform.</p> <p>Turtle deflectors on dredge head will be provided</p> <p>Environmental Monitoring Programme comprising of monitoring of marine</p>	<p>Noted &amp; Complied</p> <p>Marine water quality &amp; productivity is being monitored by MoEF &amp; CC accredited laboratory, there are no adverse impact on water quality and marine productivity in the vicinity. Ni impact on water quality &amp; marine productivity has been envisaged during</p>

				water quality, marine sediment quality and marine ecology will be initiated one week prior to commencement of dredging and will be continued during the dredging period.	this period
		Marine Ecology	Due to decrease in DO levels which effect marine ecology and disturbance to benthic communities.		
5.	Water Supply	Water resources	Impact on existing water resources	Government of Odisha has accorded permission for water intake of 5 MLD from Matai River which can cater requirement for port expansion. Water Treatment Plant (WTP) of 5 MLD and water distribution system developed for Phase I.  Distribution system shall be extended to cater to the requirement of expansion project.	Complied
6.	Wastewater Discharge	Water Quality	Impact due to discharge of runoff from stock piles and disposal of untreated sewage	Collection of runoff from stock piles in settling ponds.  Sewage treatment plant will be provided.  Treated wastewater from STP will be used for irrigating the greenbelt	Complied
7.	Solid Waste Management	Groundwater and Soil quality	Impact due to disposal of untreated solid waste on ground	Composted bio-degradable waste will be used as manure in greenbelt.  Other recyclable wastes will be sold.	Garbage Yard Space allocated for Phase II Operational Phase.  Solid Waste Management would be done by Segregation at Generation



					Points.  Solid waste management practices is being implemented inline to Solid Waste Management Rule 2016.
8.	Cargo Movement	Existing infrastructure	Increase in Traffic Addition	<p>A dedicated rail corridor of 62.5 km has been developed and cargo are being transported through rail</p> <p>A dedicated four lane road and doubling of rail link along the rail corridor has been proposed in the Phase II</p>	Rail Road Corridor infrastructure would be augmented to cater the increased traffic
9.	Handling of hazardous materials	Accidents due to products handling	Human life and loss of property	<p>Hazardous materials will be stored as per the prescribed/approved (MSIHC) safety norms.</p> <p>Operation areas will be secured by fencing with controlled/limited entry points.</p> <p>Hazardous wastes (used oil &amp; used battery) will be sent to OPCB approved recyclers.</p> <p>Medical facilities including first aid will be available for attending to injured workers.</p> <p>Regular check of pipelines and tank farms</p> <p>Emergency alarms, provision of fire hydrant system and fire station.</p> <p>Effective Disaster Management Plan</p>	<p>DPCL had made an agreement with OSPCB approved vendor for collection of used oil. Vendor shall take care of treatment &amp; disposal at their site premises as per OSPCB norms.</p> <p>Used Oil is being recycled through authorized recyclers.</p> <p>Used Oil is the only hazardous waste being handled currently and it is being recycled through authorized recyclers.</p> <p>Proper Care is taken when handling of this waste and a well-marked storage shed is used for storage of used oil.</p> <p>Hazardous Waste Storage and Handling Facilities will be upgraded during the advance stage of Phase-II operation.</p>

				(DMP) which covers onsite and offsite emergency plans.	
10.	Fishing activity	Fishermen livelihood	Impact on fishing due to vessel movement	Creation of awareness among the fisher folk about orientation of approach channel	<p>Fishermen Community are a part of the port community and we have regular and positive interactions with them.</p> <p>Oriental of Navigational Channel is well marked with marker buoys and known to the fishing community</p>

**ANNEXURE-XIV**  
**LICENSE & NOC FROM FIRE DEPT.**



भारत सरकार /Government of India  
वाणिज्य और उद्योग मंत्रालय /Ministry of Commerce & Industry  
पेट्रोलियम तथा विस्फोटक सुरक्षा संगठन (पैसो) /Petroleum & Explosives Safety Organisation (PESO)  
PESO's ONLINE LICENSING SYSTEM

इमेल /E-mail : [explosives@explosives.gov.in](mailto:explosives@explosives.gov.in)  
दूरभाष /Phone/Fax No : 0712 -2510248, Fax-2510577  
दिनांक/Dated : 20/12/2019

संख्या/No : P/EC/OR/14/2243(P321827)

सेवा में / To,

M/s. The Dhamra Port Company Ltd.,  
Dosinga, Dhamra , Bhadrak,  
Bhadrak,  
Dhamra,  
Bhadrak,  
Taluka: Khordha,  
District: KHURDA,  
State: Odisha  
PIN: 751023

विषय / Sub : Existing Petroleum Class B Consumer Pump at Plot No, Plot No. 696(P), Khata No. 183.,  
Mouza- Dosingha, Dosingha, Chandabali, Taluka: Chandabali, District: BHADRAK, State:  
Odisha, PIN: 751023 - Licence No. P/EC/OR/14/2243 (P321827) - Reg Online Renewal of  
Licence.

महोदय / Sir(s),

Please refer to your online renewal application filed in the PESO's online Licensing System on  
20/12/2019. The license No. P/EC/OR/14/2243(P321827) granted under Petroleum Rules, 2002  
has been renewed up to 31/12/2022 and PESO's records have been updated accordingly.

The validity of the subject license can be verified by entering Dockey through the Public Domain  
link available on PESO's website: <http://peso.gov.in>. You are advised to keep this communication  
attached with your subject original/latest amended license issued by this organisation.

For further renewal, please submit application online on or before the date on which the subject  
license expires.

***This is a system generated online letter which does not require signature and reply to this  
letter is not warranted.***

PESO's ONLINE LICENSING SYSTEM

[अधिक जानकारी जैसे आवेदन की स्थिति, शुल्क तथा अन्य विवरण के लिए कृपया हमारी वेबसाइट <http://peso.gov.in>  
देखें ]

(For more information regarding status, fees and other details please visit our website <http://peso.gov.in>)

<http://10.0.50.28/peso/Licence/LetterPrint.aspx?lType=hOrTBV21n9qV7gg5EusFhQ%3...> 12/27/2019

पेज सं. 2

अनुज्ञप्ति संख्या-(Licence No.) P/EC/OR/14/2243 (P321827)

**नवीनीकरण के पृष्ठांकन के लिए स्थान**  
**SPACE FOR ENDORSEMENT OF RENEWALS**

<p>पेट्रोलियम अधिनियम, १९३४ के उपबन्धों या उनके अधीन बनाए गए नियमों या इस अनुज्ञप्ति की शर्तों का उल्लंघन न होने की दशा में यह अनुज्ञप्ति फ़िस में बिना किसी छूट के दस वर्ष तक नवीकृत की जा सकती है।          This licence shall be renewable without any concession in fee for ten years in the absence of contravention of any provisions of the Petroleum Act, 1934 or of the rules framed thereunder or of any of the conditions of this licence.</p>	<p>नवीकरण की तारीख Date of Renewal</p>	<p>समाप्ति की तारीख अनुज्ञापन प्राधिकारी के हस्ताक्षर और स्टाम्प Date of Expiry of license the licencing authority.</p>
---	--	---

1). 20/12/2019 31/12/2022 License Renewed Online

यदि अनुज्ञप्ति परिसर इसमें उपाबद्ध विवरण और शर्तों के अनुरूप नहीं पाए जाते हैं और जिन नियमों और शर्तों के अधीन यह अनुज्ञप्ति मंजूर की गई है उनमें से किसी का उल्लंघन होने की दशा में यह अनुज्ञप्ति रद्द की जा सकती है और अनुज्ञप्तिधारी प्रथम अपराध के लिए साधारण कारावास से, जो एक मास तक हो सकता है, या जुर्माने से, जो एक हजार रुपये तक हो सकता है, या दोनों से, और प्रत्येक पश्चातवर्ती अपराध के लिए साधारण कारावास से जो तीन मास तक हो सकता है, या जुर्माने से, जो पांच हजार रुपये तक हो सकता है, या दोनों से, दण्डनीय होगा।

This licence is liable to be cancelled if the licensed premises are not found conforming to the description given on the approved plan attached hereto and contravention of any of the rules and conditions under which this licence is granted and the holder of this licence is also punishable for the first offence with simple imprisonment which may be extend to one month, or with fine which may extend to one thousand rupees, or with both and for every subsequent offence with simple imprisonment which may extend to three months, or with fine which may extend to five thousand rupees or with both.



भारत सरकार  
Government of India  
वणिज्य और उद्योग मंत्रालय  
Ministry of Commerce & Industry  
पेट्रोलियम तथा विस्फोटक सुरक्षा संगठन (पेसो)  
Petroleum & Explosives Safety Organisation (PESO)  
F-35/A, बी. जे. बी. नगर,  
भुवनेश्वर-751014  
F-35/A, BJB Nagar,  
Bhubaneswar -751014

E-mail : dyccehub@explosives.gov.in  
Phone/Fax No : 0674-2433370,2433390 Fax 2430656

संख्या /No. : P/EC/OR/14/1587 (P237780)

दिनांक /Dated : 24/12/2018

सेवा में /To,

24 DEC 2018

The Dhamra Port Company Limited,  
2nd. Floor, Fortune Towers,  
Chandrasekharpur,  
Bhubaneswar (M. Corp.),  
Taluka: Bhubaneswar (M. Corp.),  
District: KHURDA,  
State: Odisha  
PIN: 751023

विषय /Sub: Plot No., Plot No.696(P), Khata No.183, Mouza - Doshinga, Tahasil - Chandabali, District: BHADRAK, State: Odisha, PIN: 999999 में स्थित विद्यमान पेट्रोलियम वर्ग A,B Consumer Pump की अनुमति संख्या P/EC/OR/14/1587 (P237780) - नवीकरण के संदर्भ में ।  
Existing Petroleum Class A,B Consumer Pump at Plot No., Plot No.696(P), Khata No.183, Mouza - Doshinga, Tahasil - Chandabali, District: BHADRAK, State: Odisha, PIN: 999999 -Licence No. P/EC/OR/14/1587 (P237780) - Reg Renewal of Licence.

महोदय /Sir  
(s).

कृपया आपके उपर्युक्त विषय से संबंधित पत्र संख्या nil दिनांक 24/12/2018 का संदर्भ ग्रहण करें ।

Please refer to your letter No. nil dated 24/12/2018 on the subject.

अनुमति सं P/EC/OR/14/1587 (P237780) दिनांक 04/10/2010 दिनांक 31/12/2021 तक नवीनीकृत कर लोटाई जा रही है ।  
Licence No. P/EC/OR/14/1587 (P237780) dated 04/10/2010 is returned herewith duly renewed upto 31/12/2021.

कृपया पेट्रोलियम नियम,2002 के अधीन बनाए गए नियम 148 में दी गई प्रक्रिया का कड़ाई से पालन करें । अनुमति के नवीकरण हेतु समस्त दस्तावेजों को दिनांक 31/12/2021 या उससे पहले इस कार्यालय में प्रस्तुत करें ।

Please follow the procedure strictly as laid down in rule 148 of the Petroleum Rules, 2002 and submit complete documents for the Renewal of the licence so as to reach this office on or before 31/12/2021.

कृपया पावती दें । Please acknowledge the receipt.

भवदीय /Yours faithfully,

(ए.के.मीना)  
(A K Meena)  
विस्फोटक नियंत्रक  
Controller of Explosives  
कृते उप मूख्य विस्फोटक नियंत्रक  
For Dy. Chief Controller of Explosives.  
भुवनेश्वर/Bhubaneswar

(अधिक जानकारी जैसे आवेदन की स्थिति, शुल्क तथा अन्य विवरण के लिए हमारी वेबसाइट : <http://peso.gov.in> देखें)  
(For more information regarding status, fees and other details please visit our website: <http://peso.gov.in>)

प्रारूप XIV  
(प्रथम अनुसूची का अनुच्छेद 5 देखिए)  
FORM XIV  
(see Article 5 of the First Schedule)



मोटोर वाहनों में ईंधन डालने के लिए पम्प आउटफिट के संबंध में टैंक या टैंकों में पेट्रोलियम भंडारण के लिए अनुज्ञप्ति  
LICENCE TO STORE PETROLEUM IN TANKS IN CONNECTION WITH PUMP OUTFIT FOR FUELING MOTOR CONVEYANCES

अनुज्ञप्ति सं. (Licence No.) : P/EC/OR/14/1587(P237780)

फीस रूप (Fee Rs.) 5000/- per year

पेट्रोलियम अधिनियम, 1934 के उपबंधों और उसके अधीन बनाए गए नियमों तथा इस अनुज्ञप्ति की अतिरिक्त शर्तों के अधीन रहते हुए 22.00 KL of Petroleum class B को टैंक/टैंकों में भण्डारण मात्र के लिए The Dhamra Port Company Limited, 2nd. Floor, Fortune Towers, Chandrasekharpur, Bhubaneswar (M. Corp.), Taluka: Bhubaneswar (M. Corp.), District: KHURDA, State: Odisha, PIN: 751023 को नीचे वर्णित अनुज्ञप्त परिसरों में जो कि इससे उपबंध नक्शा संख्या P/EC/OR/14/1587(P237780) तारीख 24/12/2018 में दिखाया गया है, के लिए विधिमान्य अनुज्ञप्ति अनुदत्त की जाती है।

Licence is hereby granted to The Dhamra Port Company Limited, 2nd. Floor, Fortune Towers, Chandrasekharpur, Bhubaneswar (M. Corp.), Taluka: Bhubaneswar (M. Corp.), District: KHURDA, State: Odisha, PIN: 751023 valid only for the storage of 22.00 KL of Petroleum class B in tank/s in the licensed premises described below and shown on the plan no: P/EC/OR/14/1587(P237780) dated 24/12/2018 attached hereto subject to the provisions of the Petroleum Act, 1934 and the rule made thereunder and to the further conditions of this Licence.

यह अनुज्ञप्ति 31st day of December 2021 तक विधिमान्य रहेगी।  
The Licence shall remain in force till the 31st day of December 2021

October 4, 2010

For Jt. Chief Controller of Explosives  
EC, Kolkata

अनुज्ञप्त परिसरों का विवरण और अवस्थान  
DESCRIPTION AND LOCATION OF THE LICENSED PREMISES

अनुज्ञप्त परिसर जिसकी सीमाएं संलग्न नक्शे में दिखाई गई हैं: Plot No: Plot No.696(P), Khata No.183, Mouza - Doshinga, Tahasil - Chandabali, District: BHADRAK, State: Odisha, PIN: 999999 में स्थित हैं और उसमें निम्नलिखित सम्मिलित हैं:

The licensed premises, the boundaries of which are shown in the attached plan, are situated at Plot No: Plot No.696(P), Khata No.183, Mouza - Doshinga, Tahasil - Chandabali, District: BHADRAK, State: Odisha, PIN: 999999 and consist of:

- क पेट्रोलियम वर्ग क परिसर के लिए NIL किलोलिटर क्षमता के/क्रमशः 1 क्षमता के भूमिगत गैस टाईट टैंक, जो विद्युतचालित/हस्तचालित NIL डिस्पेंसिंग पम्पों से जुड़े हुए हैं।
- a 1 number(s) underground gas tight tanks of capacity NIL kilolitres respectively of petroleum Class A connected with NIL number(s) electrically/manually operated dispensing pump(s)
- ख पेट्रोलियम वर्ग ख/ग परिसर के लिए 22.00 किलोलिटर क्षमता के/क्रमशः 1 क्षमता के भूमिगत गैस टाईट टैंक, जो विद्युतचालित/हस्तचालित 1 डिस्पेंसिंग पम्पों से जुड़े हुए हैं।
- b 1 number(s) underground gas tight tanks of capacity 22.00 kilolitres respectively of petroleum Class B connected with 1 number(s) electrically/manually operated dispensing pump(s).
- ग एक विक्रय कक्षा/कियोस्क
- c A sales room/kiosk
- घ सर्विस सम्बन्धी सुविधाएं जिनमें Pump Attendant Room, सम्मिलित हैं।
- d Servicing facilities consisting of Pump Attendant Room. As per attached plan



भारत सरकार /Government of India  
वाणिज्य और उद्योग मंत्रालय /Ministry of Commerce & Industry  
पेट्रोलियम तथा विस्फोटक सुरक्षा संगठन (पैसे) /Petroleum & Explosives Safety Organisation (PESO)  
PESO's ONLINE LICENSING SYSTEM

ईमेल /E-mail : [explosives@explosives.gov.in](mailto:explosives@explosives.gov.in)  
दूरभाष /Phone/Fax No : 0712 -2510248, Fax-2510577  
दिनांक/Dated : 20/12/2019

संख्या/No : P/EC/OR/14/2243(P321827)

सेवा में / To,

M/s. The Dhamra Port Company Ltd.,  
Dosinga, Dhamra , Bhadrak,  
Bhadrak,  
Dhamra,  
Bhadrak,  
Taluka: Khordha,  
District: KHURDA,  
State: Odisha  
PIN: 751023

विषय / Sub : Existing Petroleum Class B Consumer Pump at Plot No, Plot No. 696(P), Khata No. 183.,  
Mouza- Dosingha, Dosingha, Chandabali, Taluka: Chandabali, District: BHADRAK, State:  
Odisha, PIN: 751023 - Licence No. P/EC/OR/14/2243 (P321827) - Reg Online Renewal of  
Licence.

महोदय / Sir(s),

Please refer to your online renewal application filed in the PESO's online Licensing System on 20/12/2019. The license No. P/EC/OR/14/2243(P321827) granted under Petroleum Rules, 2002 has been renewed up to 31/12/2022 and PESO's records have been updated accordingly.

The validity of the subject license can be verified by entering Dockey through the Public Domain link available on PESO's website : <http://peso.gov.in>. You are advised to keep this communication attached with your subject original/latest amended license issued by this organisation.

For further renewal, please submit application online on or before the date on which the subject license expires.

***This is a system generated online letter which does not require signature and reply to this letter is not warranted.***

PESO's ONLINE LICENSING SYSTEM

[अधिक जानकारी जैसे आवेदन की स्थिति, शुल्क तथा अन्य विवरण के लिए कृपया हमारी वेबसाइट <http://peso.gov.in> देखें ]

(For more information regarding status, fees and other details please visit our website <http://peso.gov.in>)

<http://10.0.50.28/peso/Licence/LetterPrint.aspx?lType=hOrTBV21n9qV7gg5EusFhQ%3...> 12/27/2019



पेज सं. 2

अनुज्ञप्ति संख्या-(Licence No.) P/EC/OR/14/2243 (P321827)

**नवीनीकरण के पृष्ठांकन के लिए स्थान**  
**SPACE FOR ENDORSEMENT OF RENEWALS**

<p>पेट्रोलियम अधिनियम, १९३४ के उपबन्धों या उनके अधीन बनाए गए नियमों या इस अनुज्ञप्ति की शर्तों का उल्लंघन न होने की दशा में यह अनुज्ञप्ति फ़िस में बिना किसी छूट के दस वर्ष तक नवीकृत की जा सकेगी।          This licence shall be renewable without any concession in fee for ten years in the absence of contravention of any provisions of the Petroleum Act, 1934 or of the rules framed thereunder or of any of the conditions of this licence.</p>	<p>नवीकरण की तारीख Date of Renewal</p>	<p>समाप्ति की तारीख Date of Expiry of license</p>	<p>अनुज्ञापन प्राधिकारी के हस्ताक्षर और स्टाम्प Signature and office stamp of the licencing authority.</p>
---	--	---	--

1).

20/12/2019 31/12/2022 License Renewed Online

यदि अनुज्ञप्ति परिसर इसमें उपाबद्ध विवरण और शर्तों के अनुरूप नहीं पाए जाते हैं और जिन नियमों और शर्तों के अधीन यह अनुज्ञप्ति मंजूर की गई है उनमें से किसी का उल्लंघन होने की दशा में यह अनुज्ञप्ति रद्द की जा सकती है और अनुज्ञप्तिधारी प्रथम अपराध के लिए साधारण कारावास से, जो एक मास तक हो सकता है, या जुर्माने से, जो एक हजार रुपये तक हो सकता है, या दोनों से, और प्रत्येक पश्चातवर्ती अपराध के लिए साधारण कारावास से जो तीन मास तक हो सकता है, या जुर्माने से, जो पांच हजार रुपये तक हो सकता है, या दोनों से, दण्डनीय होगा।

This licence is liable to be cancelled if the licensed premises are not found conforming to the description given on the approved plan attached hereto and contravention of any of the rules and conditions under which this licence is granted and the holder of this licence is also punishable for the first offence with simple imprisonment which may be extend to one month, or with fine which may extend to one thousand rupees, or with both and for every subsequent offence with simple imprisonment which may extend to three months, or with fine which may extend to five thousand rupees or with both.



OFFICE OF THE FIRE PREVENTION OFFICER:  
ODISHA, BHUBANESWAR

No. 293 /FPW,BBSR

Dt. 05-04.2013

To

**The Manager Environment Health Safety,  
The Dhamra Port Company Ltd.**

Ref:- Your letter No. DPCL/EHS/SO-287 dtd.08.12.2010.

Sub:- Grant of NOC from fire safety point-of view to Dhamra Port.

\*\*\*

Dear Sir,

With reference to the letter on the subject cited above this is to intimate that on your request the fire protection system of Dhamra Port was inspected on 09.03.2013 by a joint team comprising of Deputy Fire Officer, Fire Prevention Wing, Bhubaneswar and Deputy Fire Officer, Bhubaneswar Circle. The observations are as under.

**Observations**

The team inspected the following establishments/areas of Dhamra Port which are important from fire safety point of view.

1. Motor Control Center-1,2,3,4(Single storied).
2. Fire water Pump house- Single floor.
3. Water treatment Plant-G+1 floor.
4. Administrative Office-Single floor.
5. Rail loading system for coal.
6. Rail loading system for Lime stone.
7. Switch yard.
8. Coal stack pile area.
9. Jetty area.
10. Transfer points.

The following fire protection measures have been provided in the above mentioned areas as indicated against each.

Sl No.	Name of area	No. of external hydrant	No. of internal hydrant.	No. of Monitors	Smoke detectors	Manual call point with hooters
01	Motor Control Center-1	1 no.	-----	----	32 nos	02 nos
02	Motor Control Center-2	2nos	-----	-----	18 nos	02 nos
03	Motor Control Center-3	2nos	-----	----	09 nos	01 no.
04	Motor Control Center-4	2nos	----	----	06 nos	01 no.
05	Fire water Pump house	01 no.	----	---	--	-----
06	Water treatment Plant	-----	-----	---	---	---
07	Administrative Office	04 nos	06 nos	---	----	---
08	Rail loading system for Coal	---	06 nos	01 no.	-----	---
09	Rail loading system for Lime stone	---	05 nos	01 no.	--	--
10	Switch yard.	01 no.	---	---	---	---
11	Coal stack pile area	59 nos	-----	13 nos	---	-----
12	Jetty area.	16 nos	-----	---	-----	-----
13	Transfer points	-----	03nos. in each	---	-----	---

The entire Port area have been provided with hydrant system. Near each external/ internal hydrant point 01 hose box containing 02 delivery hoses of 15 mtrs length each and 01 branch pipe has been provided.. Besides the entire Coal stack pile area has been provided with water sprinkling system. The control room has been set up and a panel board connecting all the Smoke detectors has been installed there. One fire pump house has been setup where one electric pump and one diesel pump of 4555 ltrs/min capacity each and one Jockey pump of 450 ltrs/min capacity have been installed to supply water to the hydrant and sprinkling system. Two nos. Fire water reservoir of 6,00,000 ltrs capacity each have been provided to supply

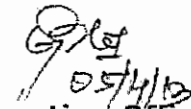
RP  
2

water to the fire fighting system. Besides 34 nos Co<sub>2</sub> (4.5 kg), 22 nos Co<sub>2</sub>(3.2 kg), 08 nos DCP (5 kg) and 10 nos DCP(10 kg) fire extinguishers have been installed at required places.

All the above mentioned fire protection measures were test checked and found working properly.

The stacking of coal in the pile area should be done as per IS: 3595/2002

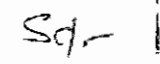
Yours sincerely,

  
Fire Prevention Officer  
Odisha, Bhubaneswar

Memo No. \_\_\_\_\_/FPW,BBSR

Date .03.2013

Copy submitted to the I/C Chief Fire Officer, Odisha, Cuttack/D.G & I.G of Police, Fire Service, Odisha, Cuttack for favour of information.

  
Fire Prevention Officer  
Odisha, Bhubaneswar

**ANNEXURE-XV**  
**ENVIRONMENT STATEMENT 2018-19**

O/C

# adani

Ports and  
Logistics

DPCL/ENV/OSPCB/2019-105

26.09.2019

To  
The Member Secretary  
State Pollution Control Board, Odisha  
A/118, Nilakantha Nagar, Unit -VIII,  
Bhubaneswar - 751012

Dear Sir,

Sub: Environmental Statement for the financial year ending 31<sup>st</sup> March, 2019 for  
M/s The Dhamra Port Company Limited.

Ref: Consent Order No. 12090/IND-I-CON-5348 dated 13.09.2017

With reference to the above mentioned subject, please find enclosed Environmental Statement  
in Form V prescribed under Rule 14 of the Environment (Protection) Rules 1986, for M/s The  
Dhamra Port Company Limited for the financial year ending 31<sup>st</sup> March 2019.

Thanking you,

Yours faithfully,  
For The Dhamra Port Company Limited

  
Krishna Kumar  
Head Environment

Encl: As above.

Copy to: The Regional Officer,  
State Pollution Control Board, Odisha  
Plot no. -1602, Ganeshwarpur,  
Januganj, Balasore - 756019



The Dhamra Port Company Ltd  
(A Wholly Owned Subsidiary of APSEZL)  
At: Dosinga, PO: Dhamra  
Bhadrak 756 171  
Odisha, India  
CIN: U45205OR1998PLC005448

Tel +91674 230 4500  
Fax +91 674 230 3828  
Info@adani.com  
www.adaniports.com

Registered Office: HIG-20, BDA Colony, Jayadev Vihar, Bhubaneswar 751 013, Odisha, India

Environment Statement for 2018-19

**FORM V**  
(See Rule 14)

**Environmental Statement for the Financial Year ending 31<sup>st</sup> March 2019**

**PART – A**

- (i) Name and address of the Owner/  
Occupier of the Industry Operation  
or Process : Subrat Tripathy  
Chief Executive Officer  
M/s The Dhamra Port Company Limited  
Village-Dosinga, Po.-Dhamra, Dist-Bhadrak  
Odisha - 756171
- (ii) Industry Category : Red-B  
Primary (STC Code) : NA  
Secondary (STC Code) : NA
- (iii) Production Capacity : 71.84 Million MT/Annum Cargo & 1 Million  
TEU/Annum Containerized Cargo
- (iv) Year of Establishment : 2000
- (v) Date of last Environment Statement  
submitted : 19<sup>th</sup> September, 2018

**PART – B**

**Water and Raw Material Consumption**

**(i) Water Consumption**

<b>Water Consumption Cu. Mtr./Day</b>	
Process	Nil
Cooling	Nil
Domestic	448.68 m <sup>3</sup> /day
Dust suppression	1131.04 m <sup>3</sup> /day
Fire fighting	597.47 m <sup>3</sup> /day

<b>Name of Products</b>	<b>Process Water Consumption per unit of Product Output</b>	
	<b>During the current financial year (2017-18)</b>	<b>During the current financial year (2018-19)</b>
Handling of Iron Ore, Coal, Limestone*	0.027 m <sup>3</sup> /Ton	0.031 m <sup>3</sup> /Ton

The Dhamra Port Company Limited

Environment Statement for 2018-19

(ii) Raw Material Consumption

Name of Raw Material	Name of Products	Consumption of Raw Material per Unit of output	
		During the previous financial year (2017-18)	During the current financial year (2018-19)
NIL*	Not Applicable	Nil	Nil

\* Unit does not have any manufacturing process

**PART – C**

**Pollutants discharged to Environment/Unit of Output**  
**(Parameters as specified in consent issued)**

Pollutants	Quantity of pollutants discharged (Mass/day)	Concentrations of pollutants in discharges (mass/volume)	Percentage of variation from prescribed standards with reasons
(a) Water		Nil*	
(b) Air	Monitoring data attached as Annexure-1		

\*Unit does not manufacture anything, as it is a service industry (Port) engaged in handling and storage of cargo. No effluents are generated from the port. Treated water from the STP is used for horticulture purposes.

**PART – D**

**Hazardous Wastes**

**(As specified under Hazardous Wastes Management and Handling Rules 1989)**

Hazardous Wastes	Total Quantity	
	During the previous financial year (2017-18)	During the current financial year (2018-19)
(a) From Process Used oil /Spent oil	6.068 KL	21.607 KL
(b) From Process Waste Oil (Cargo residue, washing water and sludge/ Ballast water containing oil from ship)	Nil (Note: Included in Hazardous Waste Authorization from August 2018)	213.0 KL
(c) From Process Waste, residue containing oil / Cargo residue & Sludge containing chemicals/ Sludge & Filters contaminated with oil	0.683 MT	0.823 MT
(d) From Pollution Control facilities	Nil	Nil

The Dhamra Port Company Limited



Environment Statement for 2018-19

**PART – E**

**Solid Waste**

Solid Waste	Total Quantity Generated (MT/Annum)	
	During the previous financial year (2017-18)	During the current financial year (2018-19)
(a) From Process (Ash)	Nil	Nil
(b) From Pollution Control facilities	2.075 MT/Annum	2.890 MT/Annum
(C-1) Quantity recycled or reutilized within the unit	2.075 MT/Annum	2.890 MT/Annum
(C-2) Sold	Nil	Nil
(C-3) Disposed	Nil	Nil

**PART - F**

Please specify the characterization (In terms of Composition and quantum) of Hazardous as well as solid wastes and indicate disposal practice adopted for both these categories of wastes:

Hazardous Waste			
Sl. No	Name of waste	Generation quantity	Disposal method
1	Used oil /Spent Oil	21.607 KL	Sold to Authorized Recyclers /Reprocessors
2	Waste Oil (Cargo residue, washing water and sludge/ Ballast water containing oil from ship)	213.0 KL	Sold to Authorized Recyclers /Reprocessors
3	Waste, residue containing oil / Cargo residue & Sludge containing chemicals/ Sludge & Filters contaminated with oil	0.823 MT	ACC for co-processing /energy recovery/Stored in HW Shed

DPCL has got the authorization from OSPCB vide letter no. IND-IV-HW-894/9967 on dated 24.08.2018 for handling of hazardous waste like Used oil/Spent oil, Waste oil (Cargo residue, washing water and sludge/ Ballast water containing oil from ship) and Waste, residue containing oil / Cargo residue & Sludge containing chemicals/ Sludge & Filters contaminated with oil valid till 31.03.2020.

The Dhamra Port Company Limited

**Environment Statement for 2018-19**

<b>Solid Waste</b>			
<b>Sl. No</b>	<b>Name of waste</b>	<b>Generation quantity</b>	<b>Disposal method</b>
1	Paper waste	15.427 MT	Recycled for making note pad through third party recycler
2	Plastic waste	21.226 MT	Sent to M/s ACC for co-processing/energy recovery
3	Glass Waste	3.258 MT	Sold to scrap vendor for recycling.
4	Food waste	198.213 MT	Used for making compost for horticulture use.
5	STP Sludge	2.890 MT	Used as manure in horticulture work
6	Wooden Waste	0.400 MT	Reused in in-house construction work

**PART – G**

**Impact of the pollution abatement measures taken on conservation of natural resources and on the cost of production**

- DPCL has two nos. of Sewage Treatment Plant (STP) of capacity 140 KLD & 15 KLD each, so as to handle sewage generated from port & township. The STP treated water is being used for horticulture and gardening purpose.
- Two no's of settling ponds have been constructed to treat the water from the port area. In settling ponds, the suspended materials (coal and iron fines) will be arrested and treated water is used for dust suppression purpose.
- 2 nos of mechanized road sweeping machine has been deployed for cleaning of road.
- Regular monitoring of Ambient Air Quality by a MOEFCC accredited agency to meet the prescribed standard by concerned authority.
- Green belt has been developed inside & outside of the port.
- During the financial year 2018-19, the total amount of Rs. 9.34 Crores was incurred on environmental protection measures.
- 50 KLD capacity of rain water harvesting structure has been developed for reutilization of rain water in plantation purpose.
- Trawler has been provided to Forest Department, Govt. of Odisha for patrolling purpose for conservation of Olive Ridley turtle.

The Dhamra Port Company Limited

Environment Statement for 2018-19

PART – H

**Additional measures /investment/ proposal for environmental protection including abatement of pollution, prevention of pollution.**

- Green belt has been developed inside the port premises and along the Rail /Road corridor of 62 km length. Strip plantation on both the edges of railway corridor has been taken up and 2,16,000 plants till date have been planted along the north & south edges of the corridor till date. Plantation of suitable species has been taken up in and around the port area and admin/Residential area with effect from 2010 & is continuing. So far 51,321 plants suitable for the site have been planted at Port site apart from the rail road corridor plantation mentioned above.
- 21,120 no's of plantation have been done in nearby village area & 1,000 nos. of avenue plantation has been done.
- We are also conserving the natural patch of mangrove situated at south side of our port premises by bamboo fencing within area of 9 ha. We have also developed a nursery with massive numbers of mangrove sapling.
- Use of high pressure rain guns to reduce the fugitive emission from stack yards
- Use of Dust Suppression System (DSS) in conveyor line
- Use of fogging system in wagon tippler
- Use of water sprinkling tanker
- Use of mobile dust buster machine for reducing the fugitive emission
- Dedicated team for doing housekeeping work
- Use of tarpaulin cover on stack yard and transporting wagon
- Use of closed conveyor system in entire port
- All conveyor transfer points are closed in nature
- Use of hopper for unloading of materials from vessels. Dust suppression system is installed in unloading hoppers
- Periodic maintenance of dust suppression equipment's for better performance and efficiency.
- Use of mechanized road sweeping machine for cleaning the roads
- Development of multilayer plantation in various locations.

PART – I

**Any other particulars for improving the quality of environment:**

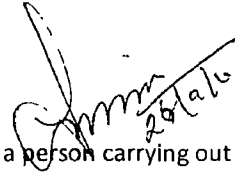
- Dhamra Port committed to promote a culture seeking continual improvement in Environment performance of the organization.
- Dhamra Port emphasizes on implementing Environment Management System to optimize its resource consumption, improve efficiencies, reduce wastes by adopting 5R principles, enhance operational safety to minimize environmental risks. The environmental concerns are considered and addressed adequately during planning, project development and operations.

The Dhamra Port Company Limited

Environment Statement for 2018-19

- Specialized illumination system in line with “International Dark Sky Association (IDA)” has been installed to avoid illuminating the sky or focusing light towards sea. Sodium vapour lamps are being used instead of mercury lamp. All area lighting, roadway lighting and lighting mounted on masts or other elevated structures are of full cutoff luminaries.
- Deflectors are installed on drag-head of dredgers to keep turtles out of path of dredger. Screens are also installed in inflow/overflow pipes of dredgers to monitor turtle entrainment. There are observers on Dredgers to ensure implementation of IUCN Dredging Protocol.
- DPCL has made an effective contribution towards Environment Protection, management and conservation during this year.
- Under the inspiration of Prime Minister’s Clean India Mission, APSEZ has developed a vision for making itself – “A Zero Waste Company” by the year 2020. APSEZ’s vision is based on adoption of 5 R’s principle of waste management, i.e Reduce, Reuse, Reprocess, Recycle & Recover.
- 100 % waste water generated is being reused and recycled.
- Waste camps are being organized in township for collection of waste materials from township residents so as to collect other waste apart from garbage. The main intention is to make the area waste free and for creating awareness among resident.
- DPCL believe in sustainable development and are working in close harmony of biodiversity rich area. We are regularly monitoring our foot prints on environment.
- Adopted the 5Rs principle in our port premises
- Achieved Zero discharge of waste water.
- Achieved Zero Plastic used inside our Port Premises.
- Waste paper Recycling
- Use of Eco- Friendly which is made of waste paper.
- Roof top Solar power generation – 4.0 MWp

Date : 26-09-2019



(Signature of a person carrying out an industry, operation or process)

Name : Krishna Kumar

Designation : Head Environment

Address : M/s The Dhamra Port Company Limited

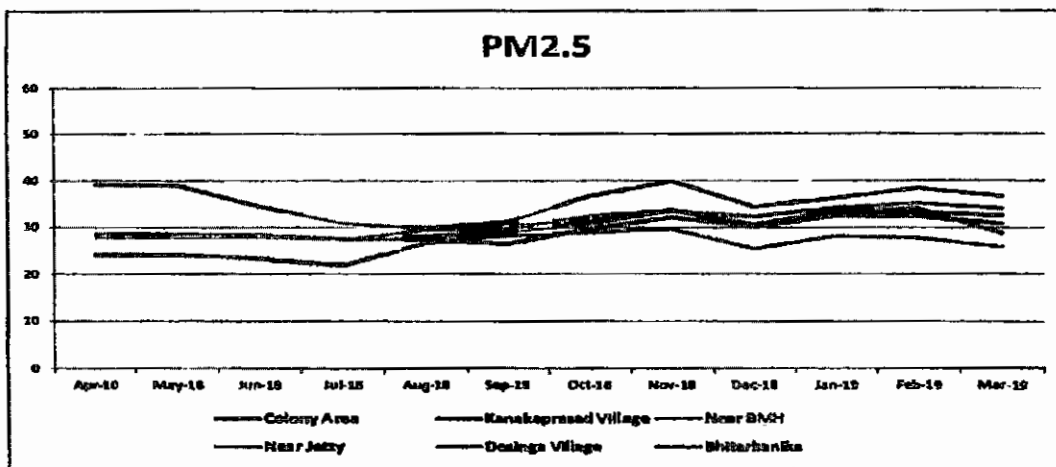
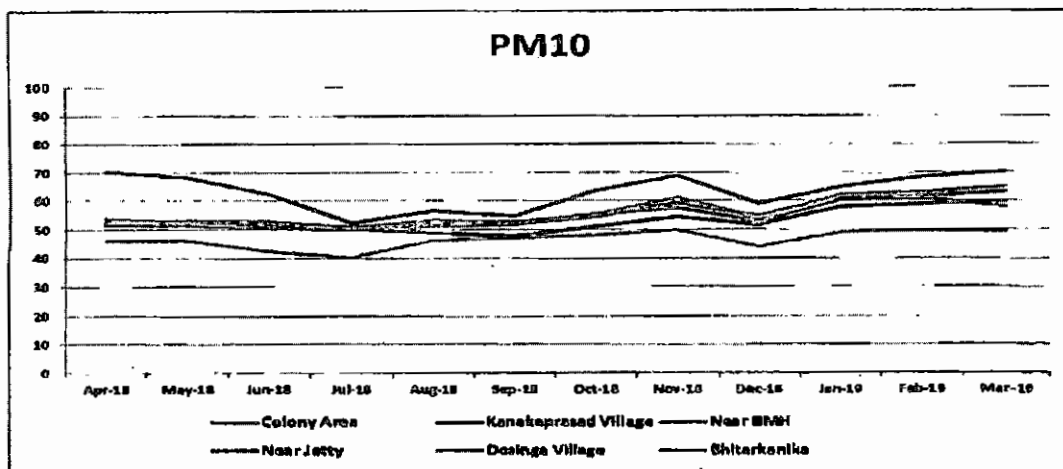
Village-Dosinga, Po. Dhamra,

Dist-Bhadrak, Odisha

The Dhamra Port Company Limited

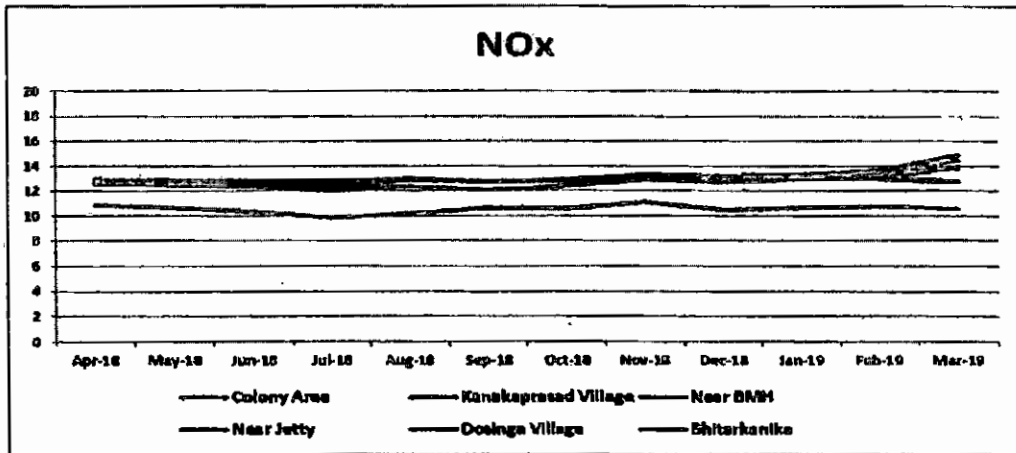
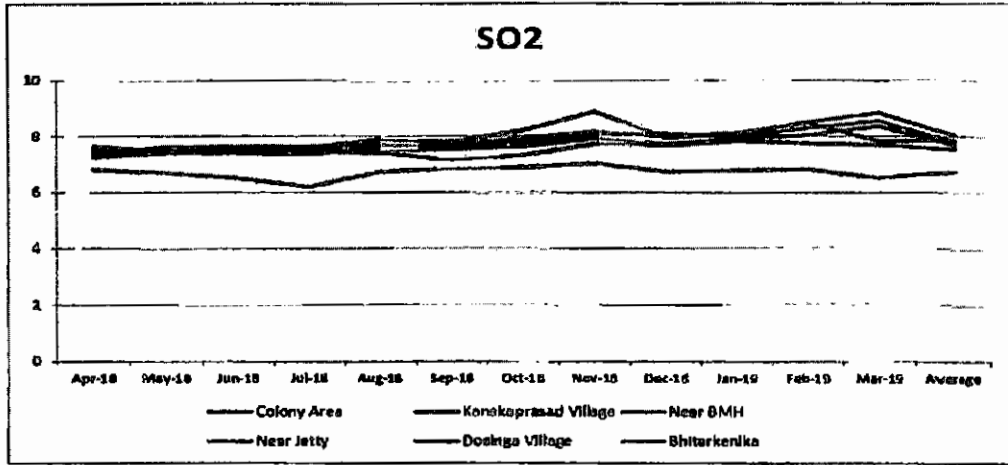
Environment Statement for 2018-19

Annexure 1



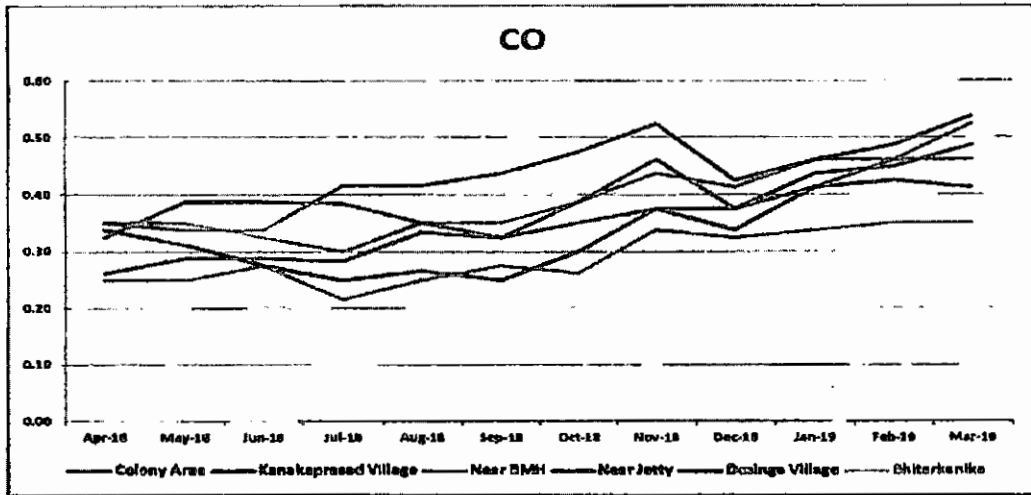
The Dhamra Port Company Limited

Environment Statement for 2018-19



The Dhamra Port Company Limited

Environment Statement for 2018-19



The Dhamra Port Company Limited

**ANNEXURE-XVI**  
**CONSENT TO ESTABLISH-RMP**





Tel : 2564033/2563924  
EPABX : 2561909/2562847  
E-mail: [paribesh1@ospcboard.org](mailto:paribesh1@ospcboard.org)  
Web site : [www.ospcboard.org](http://www.ospcboard.org)

OFFICE OF THE  
**STATE POLLUTION CONTROL BOARD, ODISHA**

Parivesh Bhawan, A/118, Nilakantha Nagar, Unit-VIII,  
Bhubaneswar - 751 012

By Speed Post /  
Through Online

No. 1874 /

IND-II-CTE- 6289

Date 17.02.2020 /

**CONSENT TO ESTABLISH ORDER**

In consideration of the online application no. **2231670** for obtaining Consent to Establish of **M/s Dhamra Port Company Ltd.** the State Pollution Control Board is pleased to convey its Consent to Establish Under Section 25 of Water (Prevention & Control of Pollution) Act, 1974 and Under Section 21 of Air (Prevention & Control of Pollution) Act, 1981 for **Revised Master Plan Development (5 years) of Dhamra Port for enhancement of Cargo Handling capacity of the port (bulk cargo, LNG / POL / Crude oil / Container / Multipurpose Cargo, Liquid / Cryogenic / Gas Cargo, Barges along with port backup facility / Infrastructure / Port Construction Equipment Facility) from 96.3 MMTPA & 1 Million TEU containers to 169.5 MMTPA along with installation of DG set of capacity 1x12000 KVA with additional cost of ₹ 17,518 Crore over a total area of 2013.4 Ha, At/Po - Dosinga, Via- Dhamra (plot nos. & khata nos. as mentioned in application form) in the district of Bhadrak with the following conditions.**

**GENERAL CONDITIONS**

1. This Consent to Establish is valid for the Port activity as mentioned in the application form. This order is valid for five years. The proponent shall commence construction of the project within a period of five years from the date of issue of this order. If the proponent fails to do substantial physical progress of the project within five years then a renewal of this Consent to Establish shall be sought by the proponent.
2. The industry shall comply to the provisions of Environment Protection Act, 1986 and the rules made there under with their amendments from time to time such as the Hazardous and Other Wastes (Management and Trans-boundary Movement) Rules, 2016 as amended from time to time, Hazardous Chemical Rules, / Manufacture, Storage and Import of Hazardous Chemical Rules, 1989 etc. and amendments there under. The industry shall also comply to the provisions of Public Liability Insurance Act, 1991, if applicable.
3. The Industry is to apply for grant of Consent to Operate under Section 25/26 of Water (Prevention & Control of Pollution) Act, 1974 & under Section 21 of Air (Prevention & Control of Pollution) Act, 1981 at least 3 (three) months before the commercial production and obtain Consent to Operate from this Board.
4. **This Consent to Establish is subject to statutory and other clearances from Govt. of Odisha and/or Govt. of India, as and when applicable.**

**SPECIAL CONDITIONS:**

**GENERAL:**

1. The proponent shall obtain CRZ and Environmental Clearance from MoEF&CC, Govt. of India for Revised Master Plan Development (5 years) for enhancement of



cargo handling capacity from 96.3 MMTPA & 1 Million TEU containers to 169.5 MMTPA.

2. The proponent shall obtain forest clearance if forest land is involved in the project area.
3. This Consent to Establish is granted for the capacity as mentioned above and any expansion in the capacity, change or modification in the process, addition, alternation any nature has to be undertaken with prior approval of the Board. For any change in the site or area, fresh Consent to Establish has to be obtained from the Board. The proponent shall carry out construction activity as per approved revised lay out map (**enclosed**). If the proponent wants to change the approved plant layout map, they can submit a modified plant layout map with adequate justification for such modification.
4. The proponent shall implement the pollution control measures and safeguards as proposed in the Environment Management Plan (EMP).
5. The proponent shall obtain permission from concerned authorities for drawal of surface water.
6. The construction and demolition wastes to be generated from the proposed project shall be disposed of in accordance with the provision under "Construction & Demolition Wastes Management Rules 2016".
7. The proponent shall comply to the provisions of E-Waste (Management) Rules, 2016 and shall handover e-waste to authorized collection centers/ register dismantlers/ recyclers for proper disposal of e-waste.
8. All the plastic waste generated from industry during construction and commissioning shall be collected and sent for co-processed in a cement kiln.
9. Sector wise follow – up of some 'DO & DONTs' by the ground workers shall be made mandatory for better maintenance of material and machines to ensure prevention of hazards / accidents to some extent.
10. Temporary colonies of work force shall be established sufficiently away from the High Tide Line and proper sanitation including toilets and bathrooms shall be provided to the inhabitants to prevent abuse of the inter tidal area. Sewage and other wastes generated in these settlements shall not be released to the creek. Work force shall be provided with adequate fuel to discourage them from cutting nearby tree for firewood.
11. 'Good House Keeping' is the most important area of concern and it shall be attained by developing available human resources through conducting routine in house workshops on different activities for the betterment of the environment and welfare of the workers and organization.
12. Comprehensive structure of "Environmental Management Cell" and the infrastructure facilities shall be developed etc. shall be detailed.
13. Present & post project land use pattern of acquired land shall be prepared and submitted to the Board for reference.
14. The impact on marine ecology during the construction phase shall be largely confined to the duration over which the activities are spread. Hence, the key factor in minimizing the adverse impacts shall be the reduction in the construction period at the site.



15. The socio-economic especially related to fishing, infrastructure development etc. shall be studied as large scale infrastructure like road network, railways, power lines etc. shall develop in the vicinity of area due to this project.
16. Monitoring of the marine environment shall be conducted regularly during dredging and post-dredging and necessary corrective measures shall be carried out to conserve the marine environment.
17. The inter tidal and near shore areas shall be restored to their original contours once the construction activities are completed. General clean – up along the corridor used for construction related activities, adjacent inter tidal areas, creeks etc. shall be undertaken and all the discarded materials must be removed from the site and aesthetic quality of the surroundings restored, once the construction operations are completed.
18. Detailed construction activities taken up in the CRZ area shall be submitted to the Board at the time of grant of Consent to Operate.
19. Details of transportation and its impact during transportation of the stones and other construction material for the construction of the groynes breakwaters and other Port facilities shall be submitted to the Board.
20. Road – connectivity shall be developed by the Port Authority. Fly ash shall be used for road development. Agreement with power plants shall be made for lifting of ash from power plant.
21. A green belt of adequate width and density preferably with local species along the periphery of the Port shall be raised so as to provide protection against particulates and noise. It must be ensured that at least 33% of the total land area shall be under permanent green cover, in such a manner that, atleast plantation shall be taken up at least in 20% of the total green belt area and progressively achieve 100% in a span of five years and under no circumstances this land earmarked for green belt shall be used for any other purpose.
22. Open storage yards for dust prone materials shall be surrounded with green belt. Plantation and development of lawns shall be undertaken to minimize the effect of dust and noise.
23. The Port authority shall take up adequate measure for routine health checkup of its employees / workers and the people residing in the neighborhood of the plant free of cost.
24. The civil construction shall be carried out with the fly ash bricks. If the fly ash bricks are not available locally the civil construction may carried out with other bricks with prior intimation to the concerned Regional Office of SPC Board. A quarterly statement indicating the use of fly ash bricks during civil construction shall be submitted to the Board for record.
25. Vehicle hired for bringing construction material at site should be in good condition and shall have valid Pollution Under Check (PUC) Certificate and to confirm to applicable air and noise emission standards and shall be operated only during non-peak hours.
26. The Board may impose further conditions or modify the conditions stipulated in this order during installation and /or at the time of obtaining consent to operate and may



revoke this clearance in case the stipulated conditions are not implemented and /or any information suppressed in the application form.

**WATER POLLUTION:**

27. The domestic wastewater generated from the industry shall be treated in sewage treatment plant of adequate capacity to meet the following standards as notified by the MoEF&CC, Govt. of India vide G.S.R. 1265 (E), dated 13.10.2017. The treated water shall be reused for dust suppression, irrigating greenbelt etc. Under no circumstances there shall be any discharge of treated waste water to outside the factory premises.

Sl. No.	Parameters	Standards
1.	pH	6.5-9.0
2.	BOD (mg/l)	30
3.	TSS (mg/l)	<100
4.	Fecal Coliform (MPN/100ml)	< 1000

28. The proponent shall adopt Zero Liquid Discharge (ZLD) concept and under no circumstances the waste water shall be discharged to outside the premises.
29. The proponent shall construct dedicated drainage system of runoff water in the whole Port area and the runoff water shall be treated properly and collected for use in the purpose of sprinkling at transfer points of conveyor belts and roads and the surplus water shall be discharged to outside of the Port premises.
30. The proponent shall not discharge untreated runoff water from the berths including other Port areas to the sea harbor under any circumstances.
31. The spillage of bulk items shall be minimized as these materials reach the dock waters, which sometimes accumulate in the sediments. These pollutants and metals may mobilized by microbes or bottom disturbances and get back into the dock waters and ultimately reach water body.
32. Strict prohibition shall be practiced against the discharge of ballast water and sediment in the dock water, estuarine / near shore waters to prevent introduction of exotic microorganisms including pathogens in the local waters.
33. The monitoring of the marine environment during dredging and post – dredging over a period shall be carried out and the corrective measures shall be taken to conserve the marine environment.
34. Steps shall be taken towards the maintenance of health of the study area, critical locations shall be carefully selected and designed as monitoring sites for periodic monitoring with respect to water quality, sediment quality and flora and fauna.
35. The proponent shall install Effluent Treatment Plant (ETP) of capacity 3 MLD to treat the waste water generated in the berth, stack yard and other areas of the Port.
36. Details of drainage system in the berth and stack yard and the Effluent Treatment Plant shall be provided in order to treat the discharge/runoff form the stack yard.
37. The surface run off from open stack yards and mineral handling area shall be collected and adequately treated to meet prescribed standard for inland surface water before discharge to river.



38. Adequate firefighting system shall be adopted at the coal stock yard to control fire hazard if any.
39. Leachate from storage of chemicals and other materials having toxic content if any shall be collected and treated properly. Care shall be taken to prevent the ground water contamination.
40. An effective oil spillage containment and management plan shall be evolved with the involvement of various agencies like Port, Pollution Control Board, Indian Coast Guard Oil Companies etc.
41. On site living rooms of workers and the gas storage shall be well apart to minimize the risk of accidents. Adequate safety measures including provision of gas mask and ear plugs during cutting operation and medical treatment facilities for workers in case of accidents shall be ensured. The working place shall be provided with better sanitation facilities.
42. The sea water in the harbor area shall meet the water quality criteria for SW-IV class of sea water as given below :
  - a) pH : 6.5 – 9.0
  - b) Dissolved oxygen : 3.0 mg/l or 40% of saturation value whichever is high.
  - c) Colour and odour : No visible colour or offensive odour
  - d) Floating matter, Oil & grease and scum including petroleum product : 10 mg/l
  - e) Fecal coliform : 500 MPN/100 ml
  - f) BOD (3 days) at 27°C : 5 mg/l
43. Maximum precaution shall be taken to minimize spreading of sediments to the surrounding area which will otherwise increase turbidity in the river.
44. Rain water harvesting shall be followed by utilizing the rain water collected from the roof of the administrative buildings for recharging of ground water within the premises as per the concept and practices prescribed by CPCB.

#### **AIR POLLUTION:**

45. Necessary preventive measures shall be taken during construction phase so that the ambient air quality including noise shall conform to National ambient air quality standards and standards for noise in industrial area as per **Annexure-I & II**. Ambient air quality at the boundary of the Port premises shall meet the prescribed standards of the Board as per **Annexure - I**. The ambient air quality monitoring report shall be submitted to the Board every month.
46. The ambient air quality including noise shall be within the prescribed norms of Environment Protection Act, 1986 for industrial area and at least 04 continuous ambient air quality monitoring stations around the Port premises shall be set up to monitor Suspended Particular Matter, SO<sub>2</sub>, NO<sub>x</sub>, CO and other important parameters within at least to the distance in down wind direction and where maximum ground level concentration is anticipated. The exact location of the monitoring stations shall be finalized in consultation with the State Pollution Control Board.
47. The height of the stack attached to the D.G sets shall confirm to the following:



$H = h + 0.2\sqrt{KVA}$  (Where, h = Height of the building where it is installed in meter KVA = Capacity of D.G Set and H = Height of the stack in meter above ground level)

48. Wire mesh screen of height 9 meter shall be provided all along the boundary of the Port premises to avoid fugitive dust emission to the surroundings.
49. To minimize noise and vibration, heavy machinery shall be properly installed and maintained. Personal protection in the form of earplugs shall be made available to the workers, who are exposed to the high noise areas like workshop, dumper house, crane operation, tipper shop etc.
50. The noise level during pilling, transport and erection of structures etc. shall be kept to a minimum through proper lubrication, muffing and modernization of equipments.
51. Air compressor and DG set shall be acoustically designed and shall be housed in appropriate acoustic enclosures so that the noise level outside it shall conform to the prescribed norms.
52. Water sprinkling, use of wind barriers and covered conveyer at various stages of coal handing shall be practiced. Other exhaust arrangement and bag filter may be included to minimize SPM content. While loading and unloading coal and other bulk materials through grab and conveyers, the dropping height shall be minimized.
53. The pollution caused by coal / iron ore is aggravated by its dispersal with winds. Since the wind in the area is strong it is recommended that the coal / iron ore shall be sprinkled with water so as to reduce the chances of the dust dispersed over a large area including the sea/river.
54. Adequate dust suppression and or extraction system shall be installed at all potential dust generating points in ore/mineral handling system to minimize fugitive emission.
55. The collection and handling of raw materials shall be carried out in closed conveyer so that fugitive emission will be minimum.
56. The ballast shall be scientifically disposed.

**SOLID AND HAZARDOUS WASTE:**

57. Dedicated temporary storage facility of used / waste oil, grease etc. shall be provided inside the Port premises for final disposal.
58. Mechanisms shall be evolved for proper monitoring, effective handling and transportation of hazardous chemicals. The mechanism for import of hazardous wastes may be strengthened with involvement of the State Pollution Control Boards.
59. An effective wastes collection, treatment and disposal mechanism shall be evolved for incoming ships as well as waste generated within the Port that include ballast and bilge water, solid waste, cargo waste, kitchen waste, toilet effluent, packing materials, floating debris, construction left over materials etc. A detail management plan to this effect shall be submitted to the Board.
60. Effective monitoring system shall be evolved to check the release of spillage of oil into the dock waters, estuary and near shore water by ship and also during transportation. Proper collection and treatment facilities shall be provided for proper treatment and disposal after achieving the standards.



61. A comprehensive Disaster Management Plan shall be formulated involving concerned agencies considering various aspects like containment of large scale oil spillage, accidental hazards arising from handling of dangerous / inflammable cargoes as well as natural calamities.
62. The industry shall obtain authorization for management of Hazardous Waste as per provisions of Hazardous and Other Wastes (Management and Trans-boundary Movement) Rules, 2016 as amended from time to time.
63. Municipal Solid Waste generated from the Port shall be disposed off as per the Solid Waste Management Rules, 2016 and amendment thereafter.
64. The proponent shall establish Mechanized Waste Converter having polycrack method and other similar method for processing of Municipal Solid Waste generated from the Port, under covered shed to produce valuable products like oil, water, gas, carbon, metal, glass etc.
65. Spoils generated from dredging activity shall be cautiously disposed off in a proper manner to avoid contamination as recommended in the EIA.
66. The solid waste generated as ETP sludge and from other sources shall be suitably disposed off without causing any public nuisance or environmental contamination.
67. All compliance shall be made with respect to manufacture, storage and import of Hazardous Chemical Rule, 1989 & amended thereafter and other provisions of the Environment Protection Act, 1986.

Encl: (i) Annexure – I & II  
(ii) Approved layout map

  
MEMBER SECRETARY

To,

Cdr. Anil Kumar Kar,  
M/s. Dhamra Port Company Ltd.,  
Fortune Towers, 2<sup>nd</sup> Floor,  
Chandrasekharapur, Bhubaneswar-751023, Odisha

Memo No. 1875 /Date 17.02.2020 /

Copy forwarded to:

1. The Director (Env.)-cum-Special Secretary to Govt., F & E Deptt., Govt. of Odisha.
2. The District Magistrate & Collector, Bhadrak
3. District Industries Centre, Bhadrak
4. The Director, Factories & Boiler, Bhubaneswar
5. HSM Cell, SPC Board, Bhubaneswar
6. DFO, Bhadrak
7. Consent to Operate Section, SPC Board, Bhubaneswar
8. Regional Officer, SPC Board, Balasore
9. Copy to Guard file

  
CHIEF ENV. ENGINEER

*o/c*

टिप्पण:

1. जब कभी और जहाँ भी किसी अपने-अपने प्रवर्ग के लिये दो इतिहास प्रयोग दिनों पर प्रावित बुरा, अन्य विनिर्दिष्ट सीमा से अधिक हो तो इसे नियमित या निरंतर प्रयोग तथा अतिरिक्त अनेकन करवाने के लिये बर्दाश्त कारण समझा जायेगा।

[फा. सं. न्यू-15017/43/2007-सी.पी.डब्ल्यू.]

रजनीरा दुबे, संपुक्ता सचिव

टिप्पण: मूल नियम, भारत के राजपत्र में असाधारण सं.का.आ.844 (अ), तारीख 19 नवम्बर 1986 द्वारा प्रकाशित किये गये थे और पश्चात्काली संशोधन सं.का.आ.433 (अ), तारीख 18 अप्रैल 1987, सा.का.नि. 176 (अ), तारीख 2 अप्रैल 1998 और हाल में ही सा.का.नि. 97 (अ), तारीख 18 फरवरी 2009; सा.का.नि. 140 (अ), तारीख 4 मार्च, 2009; सा.का.नि. 512 (अ), तारीख 9 जुलाई, 2009; सा.का.नि. 543 (अ), तारीख 22 जुलाई, 2009; सा.का.नि. 595 (अ), तारीख 21 अक्टू, 2009; और सा.का.नि. 974 (अ) तारीख, 04 नवम्बर 2009 द्वारा प्रकाशित किए गए।

MINISTRY OF ENVIRONMENT AND FORESTS

NOTIFICATION

New Delhi, the 16th November, 2009

G.S.R. 826(E).— In exercise of the powers conferred by section 6 and section 25 of the Environment (Protection) Act, 1986 (29 of 1986), the Central Government hereby makes the following rules further to amend the Environment (Protection) Rules, 1986, namely:—

1. (1) These rules may be called the Environment (Protection) Seventh Amendment Rules, 2009.

(2) They shall come into force on the date of their publication in the Official Gazette.

2. In the Environment (Protection) Rules, 1986 (hereinafter referred to as the said rules), in rule 3; in sub-rule (3B), for the words, brackets, figures and letters, "in columns (3) to (5) of Schedule VII", the words, brackets, figures and letters "in columns (4) and (5) of Schedule VII" shall be substituted.

3. For Schedule VII to the said rules and entries relating thereto, the following Schedule and entries shall be substituted, namely:—

“(SCHEDULE VII)  
[See rule 3(3B)]

NATIONAL AMBIENT AIR QUALITY STANDARDS

S. No.	Pollutant	Time Weighted Average	Concentration in Ambient Air		
			Industrial, Residential, Rural and Other Area	Ecologically Sensitive Area (notified by Central Government)	Methods of Measurement
(1)	(2)	(3)	(4)	(5)	(6)
1	Sulphur Dioxide (SO <sub>2</sub> ), µg/m <sup>3</sup>	Annual* 24 hours**	50 80	20 80	- Improved West and Gaeke - (Ultraviolet fluorescence)
2	Nitrogen Dioxide (NO <sub>2</sub> ), µg/m <sup>3</sup>	Annual* 24 hours**	40 80	30 80	- Modified Jacob & Hochheiser (Na-Arsenite) - Chemiluminescence
3	Particulate Matter (size less than 10µm) or PM <sub>10</sub> , µg/m <sup>3</sup>	Annual* 24 hours**	60 100	60 100	- Gravimetric - TOEM - Beta attenuation
4	Particulate Matter (size less than 2.5µm) or PM <sub>2.5</sub> , µg/m <sup>3</sup>	Annual* 24 hours**	40 60	40 60	- Gravimetric - TOEM - Beta attenuation



(1)	(2)	(3)	(4)	(5)	(6)
5	Ozone (O <sub>3</sub> ) µg/m <sup>3</sup>	8 hours** 1 hour**	100 100	100 180	- UV photometric - Chemiluminescence - Chemical Method
6	Lead (Pb) µg/m <sup>3</sup>	Annual* 24 hours**	0.50 1.0	0.50 1.0	- AAS /ICP method after sampling on EPM 2000 or equivalent filter paper - ED-XRF using Teflon filter
7	Carbon Monoxide(CO) m/m <sup>3</sup>	8 hours** 1 hour**	02 04	02 04	- Non Dispersive Infra Red (NDIR) spectroscopy
8	Ammonia(NH <sub>3</sub> ) µg/m <sup>3</sup>	Annual* 24 hours**	100 400	100 400	- Chemiluminescence - Indophenol blue method
9	Benzene (C <sub>6</sub> H <sub>6</sub> ) µg/m <sup>3</sup>	Annual*	05	05	- Gas chromatography, based continuous analyzer - Adsorption and Desorption followed by GC analysis
10	Benzo(a)Pyrene (BaP) - particulate phase only, ng/m <sup>3</sup>	Annual*	01	01	- Solvent extraction followed by HPLC/GC analysis
11	Arsenic (As), ng/m <sup>3</sup>	Annual*	06	06	- AAS /ICP method after sampling on EPM 2000 or equivalent filter paper
12	Nickel (Ni), ng/m <sup>3</sup>	Annual*	20	20	- AAS /ICP method after sampling on EPM 2000 or equivalent filter paper

\* Annual arithmetic mean of minimum 104 measurements in a year at a particular site taken twice a week 24 hourly at uniform intervals.

\*\* 24 hourly or 08 hourly or 01 hourly monitored values, as applicable, shall be complied with 98% of the time in a year. 2% of the time, they may exceed the limits but not on two consecutive days of monitoring.

Note.— Whenever and wherever monitoring results on two consecutive days of monitoring exceed the limits specified above for the respective category, it shall be considered adequate reason to institute regular or continuous monitoring and further investigation.”

(F. No. Q-1501743/2007-CPW)

RAJNEESH DUBE, Jt. Secy.

Note.— The principal rules were published in the Gazette of India, Extraordinary vide number S.O.144(E), dated the 19<sup>th</sup> November, 1986; and subsequently amended vide numbers S.O. 433(E), dated the 18<sup>th</sup> April, 1987; G.S.R. 176 (E), dated the 2<sup>nd</sup> April 1996; and were recently amended vide numbers G.S.R. 97(E), dated the 18<sup>th</sup> February, 2009; G.S.R. 149(E), dated the 4<sup>th</sup> March, 2009; G.S.R. 512(E), dated the 9<sup>th</sup> July, 2009; G.S.R. 543(E), dated the 22<sup>nd</sup> July, 2009; G.S.R. 593(E), dated the 21<sup>st</sup> August, 2009; and G.S.R. 794(E), dated the 4<sup>th</sup> November, 2009.

The Environment (Protection) Rules, 1986

[SCHEDULE III]

(See rule 3)

**AMBIENT AIR QUALITY STANDARDS IN RESPECT OF NOISE**

Area Code	Category of Area	Limits in dB(A) Leq.	
		Day Time	Night Time
(A)	Industrial area	75	70
(B)	Commercial area	65	55
(C)	Residential area	55	45
(D)	Silence Zone	50	40

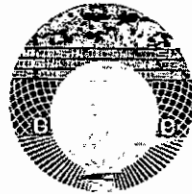
Note

1. Day time is reckoned in between 6 a.m. and 9 p.m.
2. Night time is reckoned in between 9 p.m. and 6 a.m.
3. Silence zone is defined as areas upto 100 meters around such premises as hospitals, educational institutions and courts. The Silence Zones are to be declared by the Competent Authority.

Use of vehicular horns, loudspeakers and bursting of crackers shall be banned in these zones.

4. Mixed categories of areas should be declared as one of the four above mentioned categories by the Competent Authority and the corresponding standards shall apply.

**ANNEXURE-XVII**  
**CONSENT TO OPERATE PHASE-**  
**II(RENEWAL)**



## CONSENT ORDER

BY REGD. POST WITH AD

**STATE POLLUTION CONTROL BOARD, ODISHA**A/118, Nilakantha Nagar, Unit-VIII, Bhubaneswar-751012  
Phone-2561909, Fax: 2562822, 2560955**CONSENT ORDER**No. 4218 / IND-I-CON-6348 Dt. 24.04.2020 /CONSENT ORDER NO. 2749

Sub : Consent for discharge of sewage and trade effluent under Section 25/26 of Water (PCP) Act, 1974 and emission under Section 21 of Air (PCP) Act, 1981 for operation of the port.

Ref : Your online application ID No. 2857727, Dtd.23-03-2020

Consent to operate is hereby granted under section 25/26 of Water (Prevention & Control of Pollution) Act, 1974 and under section 21 of Air (Prevention & Control of Pollution) Act, 1981 and rules framed thereunder to:

Name of the Industry: M/s The Dhamra Port Company Limited,Name of the Occupier & Designation: Shri Subrat Tripathy, Chief Executive OfficerAddress: At/Po-Dosinga, Via-Dhamra, Dist-Bhadrak-756171, Odisha**Details of Products Manufactured :**

Sl. No.	Product	Quantity
1.	Cargo handling capacity of the Port (Dry Bulk Cargo, Break Bulk Cargo, General Cargo, Liquid Cargo, Gas Cargo)	71.84 Metric Tons/Annum
2.	Containerized Cargo (in TEU)	10,00,000 Numbers / Annum

This consent order is valid for the period upto 31.03.2025

This consent order is valid for the specified outlets, discharge quantity and quality of effluents (ii) quantity of emission and its quality, specified chimney / stack (iii) quantity of solid waste and its disposal as specified below.

This consent is granted subject to the General and Special Conditions stipulated below:



## CONSENT ORDER

**A. Discharge permitted through the following outlet subject to the standard**

Outlet No.	Description of outlet	Point of discharge	Quantity of discharge KLD or KL/hr	Pre-scribed Standard							
				pH	BOD (mg/l)	COD (mg/l)	TSS (mg/l)	NH <sub>4</sub> -N (mg/l)	N-total (mg/l)	Fecal Coliform (MPN/ml)	O & G (mg/l)
1	Domestic effluent at the Outlet of STP	Used for Gardening	140 KLD	6.5-9.0	10	50	20	5	10	<1000	10
2	Wastewater from Port Area	No discharge to Outside	-	-	-	-	-	-	-	-	-
3	Wastewater from vehicle washing at the outlet of ETP	No discharge to Outside	3 KL/hr	-	-	-	-	-	-	-	-

**B. Emission permitted through the following stack subject to the prescribed standard**

Chimney Stack No.	Description of Stack attached to	Stack height (m) Above DG set	Quantity of emission (m <sup>3</sup> /hr)	Prescribed Standard			
				PM (mg/Nm <sup>3</sup> )	HC (mg/Nm <sup>3</sup> )	NO <sub>x</sub> (ppm(v))	CO (mg/Nm <sup>3</sup> )
1	DG Set: 200 KVA	3.5	-	-	-	-	-
2	DG Set: 180 KVA	3.4	-	-	-	-	-
3	DG Set: 160 KVA	3.4	-	-	-	-	-
4	DG Set: 160 KVA	3.0	-	-	-	-	-
5	DG Set: 160 KVA	3.5	-	-	-	-	-
6	DG Set: 63 KVA	4.0	-	-	-	-	-

**C. Disposal of solid waste permitted in the following manner**

Sl. No.	Type of Solid waste	Quantity generated	Quantity to be reused on site	Quantity to be reused off site	Quantity disposed off	Description of disposal site.
1.	Biodegradable food waste	200 Tonne / Month	-	-	-	Composting and used for horticulture
2.	Plastic or fibri waste	100 Tonne / Month	-	-	-	Co-incineration in ACC Cement Plant, Bargarh
3.	Mettalic waste	800 Tonne / Month	-	-	-	Supplied to scrap vendor
4.	Paper & packaging material	30 Tonne / Month				Supplied to outside parties for recycling
5.	STP sludge	10 Tonne / Month				Used as manure in horticulture work



## CONSENT ORDER

**D. GENERAL CONDITIONS FOR ALL UNITS**

1. The consent is given by the Board in consideration of the particulars given in the application. Any change or alternation or deviation made in actual practice from the particulars furnished in the application will also be the ground for liable to review/variation/revocation of the consent order under section 27 of the Water (Prevention & Control of Pollution) Act, 1974 and section 21 of Air (Prevention & Control of Pollution) Act, 1981 and to make such variations as deemed fit for the purpose of the Acts.
2. The industry would immediately submit revised application for consent to operate to this Board in the event of any change in the quantity and quality of raw material / products / manufacturing process or quantity /quality of the effluent rate of emission / air pollution control equipment / system etc.
3. The applicant shall not change or alter either the quality or quantity or the rate of discharge or temperature or the route of discharge without the previous written permission of the Board.
4. The application shall comply with and carry out the directives/orders issued by the Board in this consent order without any negligence on his/her part. In case of non-compliance of any order/directives issued at any time and/or violation of the terms and conditions of this consent order, the applicant shall be liable for legal action as per the provisions of the Law.
5. The applicant shall make an application for grant of fresh consent at least 90 days before the date of expiry of this consent order.
6. The issuance of this consent does not convey any property right in either real or personal property or any exclusive privileges nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Central, State laws or regulation.
7. This consent does not authorize or approve the construction of any physical structure or facilities or the undertaking of any work in any natural water course.
8. The applicant shall display this consent granted to him in a prominent place for perusal of the public and inspecting officers of this Board.
9. An inspection book shall be opened and made available to Board's Officers during the visit to the factory.
10. The applicant shall furnish to the visiting officer of the Board any information regarding the construction, installation or operation of the plant or of effluent treatment system / air pollution control system / stack monitoring system any other particulars as may be pertinent to preventing and controlling pollution of Water / Air.
11. The applicant shall display suitable caution board at the place where the effluent is entering into any water-body or any other place to be indicated by the Board, indicating therein that the area into which the effluents are being discharged is not fit for the domestic use/bathing.
12. Storm water shall not be allowed to mix with the trade and/or domestic effluent on the upstream of the terminal manholes where the flow measuring devices will be installed.
13. The applicant shall maintain good house-keeping both within the factory and the premises. All pipes, valves, sewers and drains shall be leak-proof. Floor washing shall be admitted into the effluent collection system only and shall not be allowed to find their way in storm drains or open areas.
14. The applicant shall at all times maintain in good working order and operate as efficiently as possible all treatment or control facilities or systems install or used by him to achieve with the term(s) and conditions of the consent.
15. Care should be taken to keep the anaerobic lagoons, if any, biologically active and not utilized as mere stagnation ponds. The anaerobic lagoons should be fed with the required nutrients for effective digestion. Lagoons should be constructed impervious.
16. The utilization of treated effluent on factory's own land, if any, should be completed and there should be no possibility of the effluent gaining access into any drainage channel or other water courses either directly or by overflow.
17. The effluent disposal on land, if any, should be done without creating any nuisance to the surroundings or inundation of the lands at any time.
18. If at any time the disposal of treated effluent on land becomes incomplete or unsatisfactory or create any problem or becomes a matter of dispute, the industry must adopt alternate satisfactory treatment and disposal measures.
19. The sludge from treatment units shall be dried in sludge drying beds and the drained liquid shall be taken to equalization tank.
20. The effluent treatment units and disposal measures shall become operative at the time of commencement of production.
21. The applicant shall provide port holes for sampling the emissions and access platform for carrying out stack sampling and provide electrical outlet points and other arrangements for chimneys/stacks and other sources of emissions so as to collect samples of emission by the Board or the applicant at any time in accordance with the provision of the Acts or Rules made therein.
22. The applicant shall provide all facilities and render required assistance to the Board staff for collection of samples / stack monitoring / inspection.



## CONSENT ORDER

23. The applicant shall not change or alter either the quality or quantity or rate of emission or install, replace or alter the air pollution control equipment or change the raw material or manufacturing process resulting in any change in quality and/or quantity of emissions, without the previous written permission of the Board.
24. No control equipments or chimney shall be altered or replaced or as the case may be erected or re-erected except with the previous approval of the Board.
25. The liquid effluent arising out of the operation of the air pollution control equipment shall be treated in the manner so as to meet the standards prescribed by the Board in accordance with the provisions of Water (Prevention and Control of Pollution) Act, 1974 (as amended).
26. The stack monitoring system employed by the applicant shall be opened for inspection to this Board at any time.
27. There shall not be any fugitive or episodal discharge from the premises.
28. In case of such episodal discharge/emissions the industry shall take immediate action to bring down the emission within the limits prescribed by the Board and stop the operation of the plant if required. Report of such accidental discharge /emission shall be brought to the notice of the Board within 24 hours of occurrence.
29. The applicant shall keep the premises of the industrial plant and air pollution control equipments clean and make all hoods, pipes, valves, stacks/chimneys leak proof. The air pollution control equipments, location, inspection chambers, sampling port holes shall be made easily accessible at all times.
30. Any upset condition in any of the plant/plants of the factory which is likely to result in increased effluent discharge/emission of air pollutants and / or result in violation of the standards mentioned shall be reported to the Headquarters and Regional Office of the Board by E-mail within 2 hours of its occurrence.
31. The industry has to ensure that minimum three varieties of trees are planted at the density of not less than 1000 trees per acre. The trees may be planted along boundaries of the industries or industrial premises. This plantation is stipulated over and above the bulk plantation of trees in that area.
32. The solid waste such as sweeping, wastage packages, empty containers residues, sludge including that from air pollution control equipments collected within the premises of the industrial plants shall be disposed off scientifically to the satisfaction of the Board.
33. All solid wastes arising in the premises shall be properly classified and disposed off to the satisfaction of the Board by :
  - i) Land fill in case of inert material, care being taken to ensure that the material does not give rise to leachate which may percolate into ground water or carried away with storm run-off.
  - ii) Controlled incineration, wherever possible in case of combustible organic material.
  - iii) Composting, in case of bio-degradable material.
34. Any toxic material shall be detoxicated if possible, otherwise be sealed in steel drums and buried in protected areas after obtaining approval of this Board in writing. The detoxication or sealing and burying shall be carried out in the presence of Board's authorized persons only. Letter of authorization shall be obtained for handling and disposal of hazardous wastes.
35. If due to any technological improvement or otherwise this Board is of opinion that all or any of the conditions referred to above requires variation (including the change of any control equipment either in whole or in part) this Board shall after giving the applicant an opportunity of being heard, vary all or any of such condition and thereupon the applicant shall be bound to comply with the conditions so varied.
36. The applicant, his/heirs/legal representatives or assignees shall have no claim whatsoever to the condition or renewal of this consent after the expiry period of this consent.
37. The Board reserves the right to review, impose additional conditions or condition, revoke change or alter the terms and conditions of this consent.
38. Notwithstanding anything contained in this conditional letter of consent, the Board hereby reserves to it the right and power under section 27(2) of the Water (Prevention & Control of Pollution) Act, 1974 to review any and/or all the conditions imposed herein above and to make such variations as deemed fit for the purpose of the Act by the Board.
39. The conditions imposed as above shall continue to be in force until revoked under section 27(2) of the Water (Prevention & Control of Pollution) Act, 1974 and section 21 A of Air (Prevention & Control of Pollution) Act, 1981.
40. In case the consent fee is revised during this period, the industry shall pay the differential fees to the Board (for the remaining years) to keep the consent order in force. If they fail to pay the amount within the period stipulated by the Board the consent order will be revoked without prior notice.
41. The industry shall comply to the conditions stipulated in CTE order issued by Odisha State Pollution Control Board and conditions stipulated in Environmental Clearances issued by MoEF&CC, Govt. of India.
42. The industry shall abide by E(P) Act, 1986 and Rules framed there-under.
43. The Board reserves the right to revoke/refuse consent to operate at any time during period for which consent is granted in case any violation is observed and to modify/ stipulate additional conditions as deemed appropriate.



CONSENT ORDER

**GENERAL CONDITIONS FOR UNITS WITH INVESTMENT OF MORE THAN Rs.50 CRORES, AND 17 CATEGORIES OF HIGHLY POLLUTING INDUSTRIES (RED A)**

1. The applicant shall analyse the effluent / emissions and Ambient Air Quality every month through approved laboratory for the parameters indicated in TABLE- 'B', 'C' & Part -'B' as mentioned in this order and shall furnish the report thereof to the Board on monthly basis.
2. The following information shall be forwarded to the Member Secretary on or before 10<sup>th</sup> of every month.
  - a) Performance / progress of the treatment plant.
  - b) Monthly statement of daily discharge of domestic and/or trade effluent.
3. Non-compliance with effluent limitations
  - a) If for any reason the applicant does not comply with or is unable to comply with any effluent limitations specified in this consent, the applicant shall immediately notify the consent issuing authority by telephone and provide the consent issuing authority with the following information in writing within 5 days of such notification.
    - i) Causes of non-compliance
    - ii) A description of the non-compliance discharge including its impact on the receiving waters.
    - iii) Anticipated time of continuance of non-compliance if expected to continue or if such condition has been corrected the duration or period of non-compliance.
    - iv) Steps taken by the applicant to reduce and eliminate the non-complying discharge and
    - v) Steps to be taken by the applicant too prevent the condition of non-compliance.
  - b) The applicant shall take all reasonable steps to minimize any adverse impact to natural waters resulting from non-compliance with any effluent limitation specified in this consent including such accelerated or additional monitoring as necessary to determine the nature and impact of the non-complying discharge.
  - c) Nothing in this consent shall be construed to relieve the applicant from civil or criminal penalties for non-compliance whether or not such non-compliance is due to factors beyond his control, such as break-down, electric failure, accident or natural disaster.
4. Proper housekeeping shall be maintained inside the factory premises including process areas by a dedicated team.
5. The industry must constitute a team of responsible and technically qualified personnel who will ensure continuous operation of all pollution control devices round the clock (including night hours) and should be in a position to explain the status of operation of the pollution control measures to the inspecting officers of the Board at any point of time. The name of these persons with their contact telephone numbers shall be intimated to the concerned Regional Officer and Head Office of the Board and in case of any change in the team it shall be intimated to the Board immediately.
6. The industry shall engage dedicated qualified manpower to ensure continuous and effective operation of online stack / Ambient Air Quality / Effluent monitoring stations for maintenance of database, real time data transfer to SPCB server, data analysis and co-ordination with concerned personnel of process units for taking corrective measures in case of non-compliances and to respond to the instructions of SPCB in this matter.





## CONSENT ORDER

**E. SPECIAL CONDITIONS:**

- 1) The Port Authority shall obtain Environmental Clearance (EC) from the Competent Authority for any enhancement in cargo handling capacity or change in the configuration of Master Plan or installation of any additional facilities. The Port Authority shall then obtain Consent to Establish of the Board before commissioning any of these activities.
- 2) Adequate dust suppression and / or extraction system shall be installed at potential dust generating points in ore / mineral handling system to minimize fugitive emission. Material transfer where possibility of dust nuisance is expected shall be done in covered state.
- 3) All the haulage road, transportation road, transfer, loading and unloading points and stock pipe lines of minerals shall be provided with water sprinklers arrangements to suppress the fugitive dust emissions.
- 4) The major solid wastes like fines of coal, iron ore, bauxite etc. shall be collected and dumped in such a manner that there shall not be any dust nuisance due to wind. The Port Authority shall make efforts to safe sale these materials for other productive use.
- 5) The ambient air quality inside the port premises shall conform to the standards prescribed under E(P) Rule, 1986. The Port Authority shall install and operate at least 3 nos. of permanent Ambient Air Quality monitoring stations in consultation with State Pollution Control Board and the results should be furnished to the Board on a monthly basis.
- 6) To meet with any emergency situation, adequate foam containers should be kept ready with supporting firefighting system and water pipeline.
- 7) Necessary leakage detection devices with early warning system shall be provided at strategic locations.
- 8) The unit shall provide adequate stack height to the DG sets as per the following formula:

Where  $H = h + 0.2\sqrt{KVA}$

H = Height of stack attached to the DG in meter

h = Height of the DG room in meter where DG set is housed

KVA = capacity of DG Set

- 9) All the internal roads of the port shall be black topped or concreted and care shall be taken to avoid ruts and potholes.
- 10) Proper housekeeping shall be maintained by a dedicated team.
- 11) An effective waste water collection, treatment and disposal mechanism shall be implemented for berth, stack yard, ballast area, mineral handling area, floor washing, ship board, boiler engine room and bilge water and it shall be treated in an adequately designed Effluent Treatment Plant (ETP). The treated water shall be used for dust suppression, water sprinkling at all potential dust generating points. Port shall submit the proposal for installation of ETP with time bound action plan. Till installation of ETP there shall not any discharge of wastewater from port premises to outside.



## CONSENT ORDER

- 12) The wastewater generated from vehicle washing shall be treated in the existing ETP and the treated water shall be entirely recycled and reused. In no case this wastewater shall be discharged to outside the port premises.
- 13) The spillage of bulk items shall be minimized so that its passage to nearby water bodies shall be restricted to avoid turbidity of nearby water bodies.
- 14) Effective monitoring system shall be enforced to check the release of spillage of oil into the dock waters, estuary and near shore water by ship and also during transportation. Proper collection and treatment facilities should be provided for proper treatment and disposal after meeting the prescribed norm.
- 15) The monitoring of the marine environment during dredging and post-dredging over a period shall be carried out and the corrective measures shall be taken to conserve the marine environment.
- 16) In order to safeguard the health of the marine ecology of port area, critical locations are to be carefully selected and periodic monitoring with respect to water quality, sediment quality and fauna shall be carried out.
- 17) Domestic effluent generated from colony and port area shall be treated in the existing Sewage Treatment Plant (STP) and treated waste water shall meet prescribed standard mentioned in Section-A of this order and used for gardening.
- 18) The surface run off from open stack yards and mineral handling area shall be collected through dedicated drainage network with settling tanks at all mineral stack ward areas and adequately treated to meet prescribed standard for inland surface water before discharge to outside during monsoon or heavy rains only.
- 19) The sea water in the harbour area shall meet the water quality criteria for SW-IV class of sea water as given below:

a)	pH	:	6.5-9.0
b)	Dissolved oxygen	:	3.0 mg/l or 40% of saturation value whichever is high.
c)	Colour and odour	:	No visible colour or offensive odour
d)	Floating matter, oil and grease and scum including petroleum product	:	10 mg/l
e)	Fecal coliform	:	500 MPN/100 ml
f)	BOD (3 days) at 28 <sup>o</sup> C	:	5 mg/l
- 20) The waste oil collected from the ships shall be properly stored so that, no spillage occurs.
- 21) Utmost care shall be taken during operational period so that there shall be no threat to Bhattarkanika and Gahirmatha sanctuary which are otherwise ecologically highly sensitive.
- 22) Rain water harvesting shall be followed by utilizing the rain water collecting from the roof top of the administrative buildings for recharging of ground water within the premises as per the concept and practices prescribed by CPCB.



## CONSENT ORDER

- 23) The port shall obtain authorization for disposal of all hazardous wastes under The Hazardous & Other Wastes (Management and Transboundary Movement) Rules, 2016.
- 24) All compliance shall be made with respect to Manufacture, Storage and Import of Hazardous Chemical Rule, 1989 and amended thereafter and other provisions of the Environment Protection Act, 1986.
- 25) The unit shall abide the provisions of Environment (Protection) Act, 1986 and Rules framed thereunder.
- 26) In case the consent fees is revised upward during this period, the industry shall pay the differential fees to the Board (for the period & remaining years) to keep the consent order in force. If they fail to pay the amount within the period stipulated by the Board the consent order will be revoked without prior notice.
- 27) The port authority shall apply for consent to establish and environmental clearance for any expansion / enhancement of capacity of export and import etc.
- 28) The Board may impose further conditions or modify the conditions stipulated in this order during installation and / or at the time of renewal of consent to operate and may revoke this clearance in case the stipulated conditions are not implemented and / or any information suppressed in the application form.

To

The Chief Executive Officer,  
The Dhamra Port Company Limited,  
At/Po-Dosinga, Via- Dhamra-756171,  
Dist-Bhadrak, Odisha

  
SR. ENV. ENGINEER (L-I)

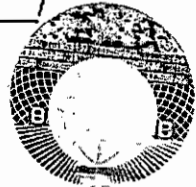
STATE POLLUTION CONTROL BOARD, ODISHA

Memo No. 4219

Dt. 24.04.2020

Copy forwarded to:

- i) Regional Officer, SPC Board, Balasore
- ii) District Collector, Bhadrak
- iii) D.F.O., Bhadrak
- iv) SES, Central Laboratory, SPC Board, Bhubaneswar
- v) H.W.M. Cell, (Head Office)

  
SR. ENV. ENGINEER (L-I)

STATE POLLUTION CONTROL BOARD, ODISHA



## CONSENT ORDER

**GENERAL STANDARDS FOR DISCHARGE OF ENVIRONMENT POLLUTANTS**

Annexure-I

**GENERAL STANDARDS FOR DISCHARGE OF ENVIRONMENTAL POLLUTANTS PART –A : EFFLUENTS**

Sl.No.	Parameters	Standards			
		Inland surface	Public sewers	Land for irrigation	Marine Costal Areas
		(a)	(b)	(c)	(d)
1.	Colour & odour	Colourless/Odourless as far as practicable	--	See 6 of Annex-1	See 6 of Annex-1
2.	Suspended Solids (mg/l)	100	600	200	a. For process wastewater – 100 b. For cooling water effluent 10% above total suspended matter of influent.
3.	Particular size of SS	Shall pass 850	--	--	--
5.	pH value	5.5 to 9.0	5.5 to 9.0	5.5 to 9.0	5.5 to 9.0
6.	Temperature	Shall not exceed 5 <sup>0</sup> C above the receiving water temperature	--	--	Shall not exceed 5 <sup>0</sup> C above the receiving water temperature
7.	Oil & Grease mg/l max.	10	20	10	20
8.	Total residual chlorine	1.0	--	--	1.0
9.	Ammonical nitrogen (as N) mg/l max.	50	50	--	50
10.	Total Kjeldahl nitrogen (as NH <sub>3</sub> ) mg/l max.	100	--	--	100
11.	Free ammonia (as NH <sub>3</sub> ) mg/l max.	5.0	--	--	5.0
12.	Biochemical Oxygen Demand (5 days at (20 <sup>0</sup> C) mg/l max.	30	350	100	100
13.	Chemical Oxygen Demand, mg/l max.	250	--	--	250
14.	Arsenic (as As) mg/l max.	0.2	0.2	0.2	0.2
15.	Mercury (as Hg) mg/l max.	0.01	0.01	--	0.001



## CONSENT ORDER

Sl.No.	Parameters	Standards			
		Inland surface	Public sewers	Land for irrigation	Marine Costal Areas
		(a)	(b)	(c)	(d)
16.	Lead (as pb) mg/l max.	01.	1.0	--	2.0
17.	Cardmium (as Cd) mg/l max.	2.0	1.0	--	2.0
18.	Hexavalent Chromium (as Cr + 6) mg/l max.	0.1	2.0	--	1.0
19.	Total Chromium (as Cr) mg/l max.	2.0	2.0	--	2.0
20.	Copper (as Cu) mg/l max.	3.0	3.0	--	3.0
21.	Zinc (as Zn) mg/l max.	5.0	15	--	15
22.	Selenium (as Sc) mg/l max.	0.05	0.05	--	0.05
23.	Nickel (as Nil) mg/l max.	3.0	3.0	--	5.0
24.	Cyanide (as CN) mg/l max.	0.2	2.0	0.2	0.02
25.	Fluoride (as F) mg/l max.	2.0	15	--	15
26.	Dissolved Phosphates (as P) mg/l max.	5.0	--	--	--
27.	Sulphide (as S) mg/l max.	2.0	--	--	5.0
28.	Phenolic compounds as (C <sub>6</sub> H <sub>5</sub> OH) mg/l max.	1.0	5.0	--	5.0
29.	Radioactive materials				
	a. Alpha emitter micro curie/ml.	10 <sup>7</sup>	10 <sup>7</sup>	10 <sup>8</sup>	10 <sup>7</sup>
	b. Beta emitter micro curie/ml.	10 <sup>6</sup>	10 <sup>6</sup>	10 <sup>7</sup>	10 <sup>6</sup>
30.	Bio-assay test	90% survival of fish after 96 hours in 100% effluent	90% survival of fish after 96 hours in 100% effluent	90% survival of fish after 96 hours in 100% effluent	90% survival of fish after 96 hours in 100% effluent
31	Manganese (as Mn)	2 mg/l	2 mg/l	--	2 mg/l
32.	Iron (Fe)	3 mg/l	3 mg/l	--	3 mg/l
33.	Vanadium (as V)	0.2 mg/l	0.2 mg/l	--	0.2 mg/l
34.	Nitrate Nitrogen	10 mg/l	--	--	20 mg/l

## CONSENT ORDER

## Annexure-II

## NATIONAL AMBIENT AIR QUALITY STANDARDS

Sl. No.	Pollutants	Time Weighed Average	Concentrate of Ambient Air		
			Industrial Residential, Rural and other Area	Ecologically Sensitive Area (notified by Central Government)	Methods of Measurement
(1)	(2)	(3)	(4)	(5)	(6)
1.	Sulphur Dioxide (SO <sub>2</sub> ), µg/m <sup>3</sup>	Annual * 24 Hours **	50 80	20 80	-Improved west and Gaek - Ultraviolet fluorescence
2.	Nitrogen Dioxide (NO <sub>2</sub> ), µg/m <sup>3</sup>	Annual * 24 Hours **	40 80	30 80	- Modified Jacob & Hochheiser (Na-Arsenite) - Chemiluminescence
3.	Particulate Matter (size less than 10µm) or PM <sub>10</sub> µg/m <sup>3</sup>	Annual * 24 Hours **	60 100	60 100	-Gravimetric - TOEM - Beta Attenuation
4.	Particulate Matter (size less than 2.5µm) or PM <sub>2.5</sub> µg/m <sup>3</sup>	Annual * 24 Hours **	40 60	40 60	-Gravimetric - TOEM - Beta Attenuation
5.	Ozone (O <sub>3</sub> ) µg/m <sup>3</sup>	8 Hours ** 1 Hours **	100 180	100 180	- UV Photometric - Chemiluminescence - Chemical Method
6.	Lead (Pb) µg/m <sup>3</sup>	Annual * 24 Hours **	0.50 1.0	0.50 1.0	-AAS/ICP method after sampling on EMP 2000 or equivalent filter paper. - ED-XRF using Teflon filter
7.	Carbon Monoxide (CO) mg/m <sup>3</sup>	8 Hours ** 1 Hours **	02 04	02 04	- Non Dispersive Infra Red (NDIR) Spectroscopy
8.	Ammonia (NH <sub>3</sub> ) µg/m <sup>3</sup>	Annual* 24 Hours**	100 400	100 400	-Chemiluminescence - Indophenol Blue Method
9.	Benzene (C <sub>6</sub> H <sub>6</sub> ) µg/m <sup>3</sup>	Annul *	05	05	-Gas Chromatography based continuous analyzer - Adsorption and Desorption followed by GC analysis
10.	Benzo (a) Pyrene (BaP)- Particulate phase only, mg/m <sup>3</sup>	Annual*	01	01	-Solvent extraction followed by HPLC/GC analysis
11.	Arsenic (As), mg/m <sup>3</sup>	Annual*	06	06	-AAS/ICP method after sampling on EPM 2000 or equivalent filter paper
12.	Nickel (Ni), mg/m <sup>3</sup>	Annual*	20	20	-AAS/ICP method after sampling on EPM 2000 or equivalent filter paper

\* Annual arithmetic mean of minimum 104 measurements in a year at a particular site taken twice a week 24 hourly at uniform intervals.

\*\* 24 hourly or 08 hourly or 01 hourly monitored values, as applicable, shall be complied with 98% of the time in a year, 2% of the time, they may exceed the limits but not on two consecutive days of monitoring.

**ANNEXURE-XVIII**  
**CSR COST EXPENDITURE DETAILS**

CSR Works Details with cost expenditure-October 2019 to March 2020											Remarks	
EDUCATION	Feb-20	Mar-20	Total	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Total (Oct'19 - Mar 2020)		
1	Merit Scholarship: The students from eight core GPs, scoring 75% & above marks in their class 10th examination under the Board of Secondary Education Odisha.	Under Think Zone Project 1. Parental engagement through weekly IVR calls started 2. ThinkZone Fellows monthly workshops conducted 3. Completion of baseline testing of all students enrolled in anganwadis 4. Regular projector-based reading sessions in primary schools 5. Monthly assessments in language and arithmetic completed in primary schools 6. Continuous program support to schools & anganwadis by ThinkZone team 7. Voice-based training started for ThinkZone fellows	Under Think Zone Project 1. Good touch & bad touch sensitization program under Technology based learning initiatives organized in 04 primary Schools of Kalihakhola Panchayat.	Physical 1. Scholarship support extended to 44 student for pursuing higher studies and 2 children to pursue school education. 2. Learning Enrichment Programme with ThinkZone among children of 04 primary schools and 5 Anganwadi Centres 3. Generating community based 9 women mentor for building early learnin project for children of 4 primary and 5 anganwadi	592000.00	32950.00		367000.00	0.00	290000.00	1311950.00	Merit Scholarship program, pilot project on Technology based Learning Initiative in collaboration with ThinkZone Edubridge Pvt Ltd for Primary Schools & AWCS ( 4 primary School & 5 AWCS) of Kalihakhola Panchayat, Education support to children of Late Gurupada Mandal
2	Support to Quality Education (Setting up School Library in High Schools and ME schools) Programme :	Book talk organized at GP High School, Karanipal and prizes were awarded to the students.		1. Library support to CRB High School - Thidi, Sukhandanma ME School - Kollikhola and Saraswala ME School - Karanjmal. 2. Book talk organised in GP High School Karanjmal		279406.00	21000.00		0.00	0.00	300406.00	All 3 library set-up completed, less expenses due to change in vendor and furniture amount cost reduced by TCD
3	GURU SAMMAN- Felicitation of retired teachers who have immensely contributed towards the Education upliftment of Bhadrak & dhama region.							0.00	0.00	0.00	0.00	Program completed
4	Support to School ( in bridging the gap of basic facilities in schools ) Programme :	Follow-up visit to 9 High Schools.		Basic facilities like Desk&Bench, Fan&Light, Owl, 20 L Manual Water Purifier support to 44 schools in the vicinity.	16519.00		36000.00	55000.00	43985.00	29000.00	99659.00	Extra expenses due to increase in th rates of bench & desk procured
5	Learning Enrichment program for Teachers			Two batches of learning enrichment training conducted for 76 teachers of schools in the Port periphery.	54712.00			83000.00	0.00	0.00	137712.00	2 training programs planned in consultation with District Education Office has been completed successfully
6	Swachhagraha (To bring about a culture of cleanliness among children and community people)							0.00	0.00	0.00	0.00	
7	Self Defense Training to School Girls	The Self-Defense training completed in KN girls High School, Bidepur, NP girls High School Bidelpur, Dharmal High School, Dhama.		Self defense training conducted for 300 students conducted at Dharmal High School and KS High School, Baimunda				15000.00	27000.00		42000.00	10 schools completed
8	Adani DAV Public School, Kuamra,	Total Student: 458, 13 students appearing CBSE Board Exam. The Firefighting registration and Solar panel installation is under process. 5th LMC completed in this month.	Total Student: 458, 13 students appearing CBSE Board Exam. The Firefighting registration and Solar panel installation is under process. The admission process for LKG is over.	Total Student: 458, 13 students appearing CBSE Board Exam. The Firefighting registration and Solar panel installation is under process. The admission process for LKG is over.	2633659.00	3277137.00	4337247.00	2256401.00	3202399.00	764461.00	16691364.00	Rs. 764461 is the Salary of teachers and staff. Due to CORONA (COVID-19) Lockdown, the vendor bill is not received. This will be shown in April
9	Udaan - Young & adolescent Students get to visit the Adani Dhama Port for a knowledge based experience about the Port and the activities of Adani Foundation	114 students and 6 Faculty from BITM, Bhubaneswar visited dhama port	The proposed plan for March 2020 was postponed due to COVID -19	1769 students from 22 schools and institutes visited port under the programme	121450.00	173380.00	146750.00	51126.00	12720.00	258115.00	766541.00	35 institutes visited in this FY along with 2702 students.
					3637349.00	3762853.00	4668997.00	3376227.00	3276187.00	1365676.00	20249430.00	
COMMUNITY HEALTH											Remarks	
1	Wellness Centre- Medicines for free distribution to community at the health centre.	In the month 1350 villagers visited the centre, undergone the diagnostic and received first AID treatment and free medicines. (Male - 653, Female - 481, Children - 216) Cumulative 3335 got treatment in the centre.	1. The Wellness Centre extended health care to 1272 persons (Male - 565, Female - 453 and Children - 234) Cumulative 4607 got treatment in the centre. 2. Awareness on Corona Virus (COVID - 19)	1. Inaugurated in 8th December 2019, the Wellness centre extended health care services to 4607 patients of the port vicinity. 2. Awareness drive was carried on COVID - 19 in Wellness Centre and 8 GPs through the staff of Wellness Centre and two Mobile Van.	0.00	131000.00	0.00	0.00	60000.00	2989988.00	3200988.00	3200988
2	MHCU Service - 2 MHCU's will cater to the villages in and around 08 blocks of Bhadrak District i.e. Chandbali, Thidi & Bhadrak	MHCU treated and distributed free medicines to patients 4709 (Male: 2142, Female: 2171 and children: 396) MHCU1: 2549 (Male- 1117, Female- 1199, Children-233) MHCU2: 2160 (Male- 1025, Female- 972, Children-163)	1. The MHCU's extended health care to 3180 villagers o MHCU 1 : 1698 (Male - 708, Female - 796 and Children - 194) o MHCU 2 : 1482 (Male - 672, Female - 696 and Children - 114) 2. Awareness on Corona Virus in 8 GP by Mobile vehicle and MHUC's	1. Two MHCU's running in immediate Port periphery GPs (8) and Rail Corridor GPs(26) provided service to 29747 population - Male: 13019, Female: 14060 and Children: 2668. 2. They also created community level awareness on COVID - 19 among people in 36 GPs	0.00	0.00	0.00	2265000.00	0.00	0.00	2265000.00	
3	Project Divyang - Nos of Specialty Abled persons will be provided with Treatment Assistance, Capacity Building Programmes				0.00	0.00	0.00	0.00	0.00	0.00	0.00	
4	First Aid to Schools & Training				0.00	0.00	0.00	0.00	0.00	0.00	0.00	
5	Mega Health Camp - 04 Mega Health Check Up Camps will be organised focusing on the prevalent diseases from the community			Three health camps were organised in Sindol (Rail Corridor), Jagala and Dhama in collaboration with Aswini Hospital, Refory Club and District Health Administration extending health service to 2148 people.	0.00	396000.00	275000.00	357000.00	0.00	0.00	1028000.00	
6	Day Observation			New Born Care Week and World AIDS Day observed in collaboration with District Social Welfare Department (CDS) Chandbali and District Health Administration.	0.00	11000.00	90000.00	0.00	0.00	0.00	101000.00	



7	Cataract Screening Camp	The Eye Screening of 4013 students from 24 periphery school has been completed. 599 students found refractive error. The Spectacle making is under process and will be distributed to all 599 students by 18th March 2020.		The Eye Screening of 4013 students from 24 periphery school has been completed. 599 students found refractive error.	0.00	0.00	0.00		0.00	0.00	0.00	
8	SuPoshan Project - In curbing Malnourishment and control the number of Severe Acute Malnourishment (SAM) & Moderate Acute Malnourishment among 0-5 years of children and develop the Health status of Pregnant and Lactating mothers	1. 64 women (mother if SAMMAM Children) were supported with vegetable mini seed kit comprising Green Vegetable and Green Leaf under SuPoshan Vaitika. 2. National Deworming Day in 8 GPs and Sexual Reproductive Health Awareness in 10 location held in this month.	1. 100 women (mother if SAMMAM Children) were supported with vegetable mini seed kit comprising Green Vegetable and Green Leaf under SuPoshan Vaitika. Procurement of weight machines for Sargins and IEC material done in this month. 2. International women's Day in 8 GPs and COVID-19 general awareness in every held in this month.	1. Health care days like Global Handwashing Day, World Food Day, National Deworming Day, Sexual Reproductive Health Awareness observed among 8 GPs. 2. Capacity building of frontline Sargins (Community health change makers) on Universal Anemia detection and control. 3. 184 SAMMAM families were supported with Kitchen Garden.	5625.00	45375.00	0.03	2625.00	0.00	60810.00	114438.03	
<b>SUSTAINABLE LIVELIHOOD</b>					6625.00	583375.00	36600.03	2827825.00	80800.00	3650798.00	6712423.03	Remarks
1	Support to Women SHG	91 Women SHG members from Karanjamal and Karanpali trained on Mushroom Cultivation as the part of scaling up of the project.	1. With the facilitation by Adani Foundation, two Producer Groups namely Misa Dharmaji Upadask Goshi, Gausprasad and Misa Sarala Upadask Goshi, Saraspasad were received Rs. 4,08, 000.00 (Rs. 104000 each) from ORMAS. 2. The distribution of 100 nos of smokeless cook stove backward families of Dosinga GP is kept on hold due to COVID - 19 lockdowns.	1. 34 SHG members of 15 SHGs were provided with hand-holding support for Mushroom Cultivation and earned Rs. 1831/month/members. 2. 81 women trained on Mushroom cultivation as the part of scaling-up of Mushroom cultivation. 3. 100 nos of families were provided/supported with Smokeless Chulahi for ensuring prevent them from smoke related health issues and prevent environmental pollution.	9340.00	9615.00	0.00	0.00	0.00	552500.00	671656.00	
2	Farmers' group initiative	1. One no of Farmer's Field School training on Rabi Paddy for 24 farmers was conducted at Bliyutprava village in collaboration with Sansar Agrapool Pvt Ltd on 25th February 2020. 2. One Vermil Bed demonstrated at Jagula village - Suresh Mahata. 3. Technical support and organic high grow granules has been applied in the demonstrated Rabi Paddy field under seed production programme at Paik SAH village of Jagula GP. 4. Under the SuPoshan Vaitika project, 64 women (mother if SAMMAM Children) were supported with vegetable mini seed kit comprising Green Vegetable and Green Leaf. 1. Animal Development programme with BAIIF - 52 Artificial Insemination against the monthly target of 65 with a cumulative achievement of 559. 2. The preparatory work for 2 years extension project of Mobile Veterinary unit in Railway Corridor in process.	1. Papaya saplings have been distributed among 18 farmers and planting is on progress for development of 3.0 acre papaya farming (Red lady variety) (Dosinga, Jagula, Jananjamal, Karanpali, Dhama GP). 2. With the facilitation of PF, 1950 nos. Banana sucker procured by 4 progressive farmers from Horticulture Department under State Plan on subsidized cost for development of TC banana (GS variety) farming covering with an area of 1.65 acre. (Jagula, Dosinga & Dhama GP) 3. Under the SuPoshan Vaitika project, 100 farmers & women (mother of SAMMAM Children) were supported with 100 vegetable mini seed kit comprising Green Vegetable and Green Leaf (8 GPs). 4. 10 nos. hand holding training on development of SuPoshan Vaitika have been completed from January to March and 248 farmers and women of SAMMAM children have been benefited. 5. Support of 3KW electric operated motor with accessories to Ranu Bera of Jagannathprasad village for supply of earthen pot to Horticulture Dept. DPCL. 6. Printing of IEC materials completed and will be delivered at site after start down of lockdown. 7. Physical ground work have been completed for development of Integrated Farming System (IFS) at Jagula GP. The planting of TC banana, papaya have completed.	<b>Farmers Development:</b> 1. Two vermi compost pit were demonstrated in bahashi and Jagula 2. Five number of FFS training conducted and 192 farmers were trained. 3. 61 Farmers were oriented on Mushroom cultivation and entrepreneurship business. 4. Ten training were conducted on Kitchen Garden among 100 village women. 5. Papaya saplings were provided to 18 farmers to cultivate in 3 acre land in 8 GPs. 6. With the facilitation 1950 banana suckers were provided to 4 progressive farmers of 3 GPs under State Plan. <b>Livestock Care</b> 1. Under the Animal Husbandry programme Artificial Insemination conducted with 445 cattle of 2 GPs. 2. Under the Pilot Mobile Veterinary programme 2224 livestock got the health check-up and requisite treatment. The project benefited 1123 families in 2 GPs Rail Corridor. 3. In 7 Veterinary camps organised across 8 GPs 2784 Livestocks were treated and vaccinated.	606500.00	148940.00	0.00	266100.00		813960.00	1634900.00	
3	Engagement with different Stake Holders	30 Flower plants have been planted in Dosinga GP High school with the support of Horticulture department, DPCL.			95350.07		6500.00		0.00	0.00	101850.07	
4	Promoting Rural Sports	The Inter GP Cricket in core GP and Volleyball at Rail Corridor would happen in March 2020.	1. Inter GP Cricket Tournament completed 2. The Volleyball tournament has been postponed due to COVID - 19.	One Inter GP Football Tournament, One Volleyball Tournament, 2 Interscholar All-let meet, One Inter GP Cricket Tournament conducted in Port Periphery and Rail Corridor.			430000.00	398000.00	0.00	245390.00	1073390.00	
5	Project Swabazamb								0.00		0.00	
6	Incidental Activities			Relief support extended to 1100 household during Bulbul		78100.00			0.00	1000000.00	1078100.00	
7	Aahar	Providing food to poor and needy people @ 500 persons per day in 'AHAAR' centre at Bhadrak every month. The NFA for extension of the project is processed.	Providing food to poor and needy people @ 500 persons per day in 'AHAAR' centre at Bhadrak every month. The NFA for extension of the project is processed.	Subsidised food provided to 78000 People.	234000.00	234000.00	234000.00	284000.00	225000.00	240000.00	1431000.00	
<b>TOTAL</b>					946190.07	470255.00	670500.00	928100.00	225000.00	2861850.00	6066895.07	
<b>RURAL INFRASTRUCTURE DEVELOPMENT</b>												Remarks
	Village Development Related: Road Infra Support	1. Karanjamal CC Road work (800 mtr). Completed. 2. Dosinga Sompatia CC Road (600mtr) Completed 3. Dosinga Rabinidra Nagar CC Road 850m completed. 4. Aman Nagar CC Road under process.	1. Rabinidra Nagar and Aman Nagar CC Road completed. 2. In Total 04 Roads completed.	6 PCC roads in Dosinga (03), Karanjamal (01) Balasahi (02)			3637175.00	6102065.00	2140088.00		12879328.00	
2	Drinking Water Facility- Handpump (81)	1. Hand pump installation 34 nos fully completed	1. Hand pump installation 34 nos fully completed	34 nos of handpumps across 8 Port periphery GPs and Rail Corridor	1015000.00	1015000.00	885000.00	1007000.00	310104.00		4242104.00	

3	Village Development Related: Swachh Dhamra Mission- Two Community Toilet	1. Community Toilet at Chandnipal finishing work under process 2. Community Toilet at Dosinga market will start by month 2020	1. Community Toilet at Chandnipal completed 2. Community Toilet at Dosinga market kept on hold due to COVID - 19	One Community toilet in Chandnipal				307202.60	307202.60	428271.80	1042677.00		
4	Education related: Infrastructure Development for Education	1. Administrative request for construction under MO SCHOOL ABHIYAN received from District Collector on 31st January 2020. and NFA under process 2. Dhamra college class room construction finishing work under process	1. Administrative request for construction under MO SCHOOL ABHIYAN received from District Collector on 31st January 2020. and NFA under process 2. Dhamra college classroom construction completed.	Girls Toilet, Classroom and roof in 14 schools under Mo School abhiyan.					200000.00	100000.00	300000.00	37.15 LAKH TO BE RELEASE FROM AF HD KEPT ON HOLD - FOR THE FY 19-20	
5	Stadium Work Support: Mini Stadium at Chandbal	The gallery casting completed and steps under process.	The gallery completed.	One at Chandbal		521400.00				303600.00	826000.00		
6	Village Development Related: High Mast Light Support	High Mast installation Completed at Boincha and Pirahat.	High Mast installation Completed at Boincha and Pirahat.	1. High Mast Light - 02 number (Boincha and Pirahat) 2. Street Light at Dhamra 3. LED Light Pole - 10 nos at Chandnipal Fish Yard 4. Street Solar Light at Karanpal ADAV Public School		361000.00	1108449.40	200000.00	610547.30		2279596.40		
<b>TOTAL</b>						1014000.00	1897400.00	2003449.40	9351377.80	7528916.60	2871859.80	20759105.40	
<b>GRAND TOTAL</b>						5,663,155.07	6,713,913.00	7,905,846.43	12,244,629.60	11,109,023.60			

**ANNEXURE-XIX**  
**POWER AGREEMENT FROM NESCO**



ଓଡ଼ିଶା ओडिशा ODISHA

08AA 833606

**CORRIGENDUM TO THE POWER SUPPLY AGREEMENTS EXECUTED BETWEEN NESCO UTILITY AND M/s DHAMRA PORT COMPANY LTD FOR ENHANCEMENT OF CONTRACT DEMAND FROM 10000 KVA TO 20000 KVA BY MERGING TRACTION CONNECTION LOAD.**

**This Corrigendum to the Agreement** executed on 11.01.2010, made on the 12<sup>th</sup> April Two Thousand Eighteen between NESCO Utility (NESCO), Januganj, Balasore (Hereinafter called "the Licensee" which expression, unless repugnant to the subject or context, shall include its successors and assigns) of the ONE PART.

And

**M/s DHAMRA PORT COMPANY LTD.** (hereafter called "THE CONSUMER" which expression, unless repugnant to the subject or context, shall include his heirs, successors and assigns) at Second Floor, Fortune Towers, Chndrasekharpur, Bhubaneswar-751023, Odisha represented by its authorized Signatory Sri Prasanta Kumar Panigrahi aged about 49 years son of Late Ramkrushna Panigrahi designated as Senior Manager (Engineering Service) of the OTHER PART.

WHEREAS the consumer has requested the licensee to supply electrical energy at an enhanced load of 20000 KVA (from 10000 KVA) by merging its railway traction load with the Port load to the premises of the consumer situated at Dhamra under Bhadrak District for the purpose of Port Operation and traction load and licensee has agreed to supply the power on the terms and conditions stipulated hereunder and vide permission letter No FC/CO/331/3259 (7) dated 03.04.2018.

*Prasanta Kumar Panigrahi*  
THE DHAMRA PORT COMPANY LIMITED  
SENIOR MANAGER  
ELECTRICAL & INSTRUMENTATION

*Prasanta Kumar Panigrahi*  
Authorized Officer  
NESCO Utility



ଓଡ଼ିଶା ଓଡ଼ିଶା ODISHA

08AA 833607

NOW THESE PRESENT WITNESS that in consideration of the payment to be made by the consumer as herein after contained, it is hereby MUTUTALLY AGREED BY AND BETWEEN THE PARTIES HERETO as follows:

**1. Duration of Agreement:** This agreement shall commence from the date of availing power supply with enhanced load and shall continue to be in force until the expiry of FIVE years from the date of power supply, and thereafter shall so continue until the same is determined by either party giving to the other, two calendar month's notice, in writing, of its intention to terminate the Agreement.

Provided that after the initial period of agreement if power supply remains disconnected for a period of two months for non-payment of tariff or non-compliance of the directions issued under the OERC Distribution (Conditions of Supply) Code, 2004 and no effective steps are taken by the consumer for removing the cause of disconnection and for restoration of power supply, the agreement of the licensee with the consumer for power supply shall be deemed to have been terminated on expiry of the 2 months period from the date of disconnection without further notice.

**2. Condition of Supply:** The consumer has obtained and perused a copy of the OERC Distribution (Conditions of Supply) Code, 2004, Grid Code and understood its contents and undertakes to observe and abide by all the terms and conditions stipulated therein to the extent they are applicable to him. The said Code as modified from time to time, to the extent they are applicable shall be deemed to form part of this Agreement.

*Present Kumar Panigrahy*

*Present Kumar Panigrahy*  
THE DNARRA PORT COMPANY LIMITED  
SENIOR MANAGER  
ELECTRICAL & INSTRUMENTATION

*By*  
Authorised Officer  
NESCO Utility



ଓଡ଼ିଶା ओडिशा ODISHA

08AA 833608

3. **Quantum of Supply:** Subject to the provisions hereinafter contained and during the continuance of this Agreement, the licensee, represented by the 'engineer', shall supply the consumer and the consumer shall take from the licensee, a supply up to but not exceeding a contract demand of 20000 KVA (enhanced from 10000 KVA).

4. **Type of Supply:** The aforesaid supply shall be from a three phase 50 Hz alternating current system at a normal pressure of 132000Volts. The quantum of supply shall be measured by a suitable metering equipment of 132000/110 volts.

5. **Security Deposit:** The consumer, pursuant to the OERC Distribution (Conditions of Supply) Code, 2004 has made a total Security Deposit of Rs.5, 27, 26,396.00 (Rupees Five crore Twenty Seven lac Twenty Six thousand Three hundred Ninety Six only) in favor of the engineer. The consumer undertakes to deposit any additional security deposit, as and when called upon by the engineer.

6. **Charges to be paid by the Consumer:** The consumer shall pay to the engineer, for power demanded and electrical energy supplied under this agreement 'minimum monthly charges', 'demand charges', 'energy charges' and 'other charges' in accordance with the provisions of OERC Distribution (Conditions of Supply) Code, 2004 and as notified in the Tariff Notifications from time to time;

Under 'General Purpose Supply Category (EHT)'

*Present number Panagrichi*

THE DHANRA PORT COMPANY LIMITED  
SENIOR MANAGER  
ELECTRICAL & INSTRUMENTATION

*Present number Panagrichi*

*B. H.*  
Authorised Officer  
NESCO Utility





ଓଡ଼ିଶା ओडिशा ODISHA

08AA 833609

Provided that annual sum payable by any individual consumer under the provision to Section 45 of the Electricity Act, 2003, shall not be deemed to be part of the minimum monthly charges or demand charges, if any, payable by the consumer or the particular class of consumers under Regulation 84 and 85 of the OERC Distribution (Conditions of Supply) Code, 2004 provided further that the consumer shall pay electricity duty or such other levy, tax or duty as may be prescribed under any other law in addition to the charges, fuel surcharge and transformer loss payable under the OERC Distribution (Conditions of Supply) Code, 2004.

7. The tariff and conditions of supply mentioned in this Agreement shall be subject to any revision that may be made by the licensee from time to time. Arrear if any against earlier agreements for both previous connections shall be treated as arrear in this agreement. The terms and conditions in this agreement supersede the terms and conditions of the earlier agreements.

8. The consumer has to install necessary shunt capacitor to maintain power factor not less than 92%. If power factor falls below 90%, then power supply shall be disconnected for breach of contract as per clause 77 of OERC, (Condition of Supply), Code'2004.

9. **Stamp Duty:** The consumer agrees to bear the cost of the stamp duty and all costs incidental to the execution of this Agreement in full.

Prasanna Kumar Panigrahi

Prasanna Kumar Panigrahi  
THE DHAMBA PORT COMPANY LIMITED  
SENIOR MANAGER  
ELECTRICAL & INSTRUMENTATION

B. B. Neo  
Authorised Officer  
NESCO Utility



ଓଡ଼ିଶା ଓଡ଼ିଶା ODISHA

08AA 833610

In WITNESSES WHEREOF the parties hereto have put their hands and seal this 12<sup>th</sup> day of April 2018.

*Dhanraj Kumar Panigrahy*  
THE DHANRAJ PORT COMPANY LIMITED  
SENIOR MANAGER  
ELECTRICAL & INSTRUMENTATION  
Signature of the consumer

Witnesses to the execution

by the consumer

- Soujan Nayak*  
12/4/18
- ଜୟଜୟନ କୁମାର ପାତ୍ର

*B. J. Das*  
Authorized Officer  
NESCO Unit  
Signature of the engineer

acting for and on behalf of the  
licensee

Witness to the execution

by the engineer

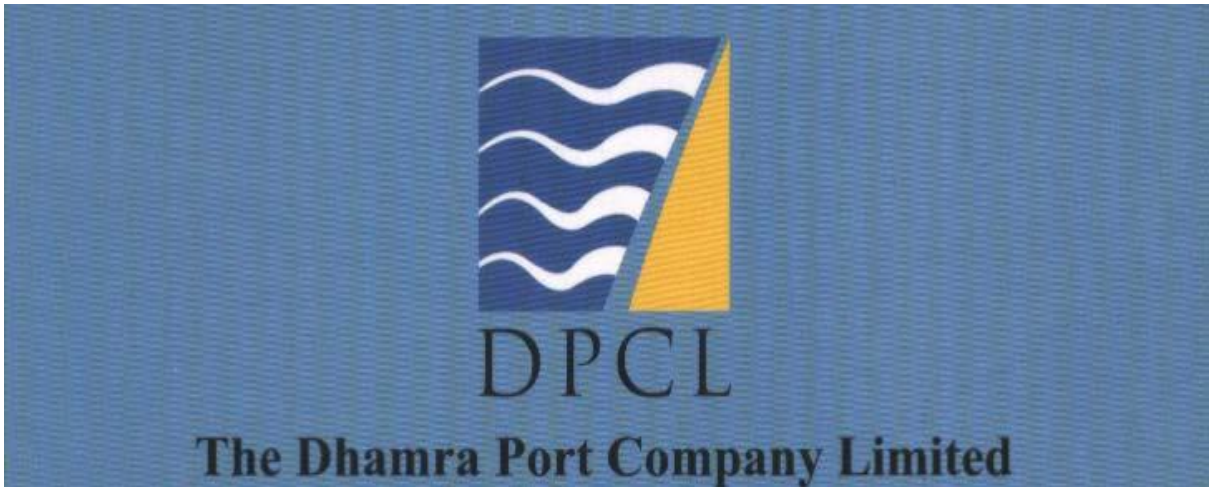
- B. J. Das*  
12/4/18
- B. J. Das*  
12/4/18



**ANNEXURE-XX**

**DISASTER/EMERGENCY MANAGEMENT**

**PLAN**



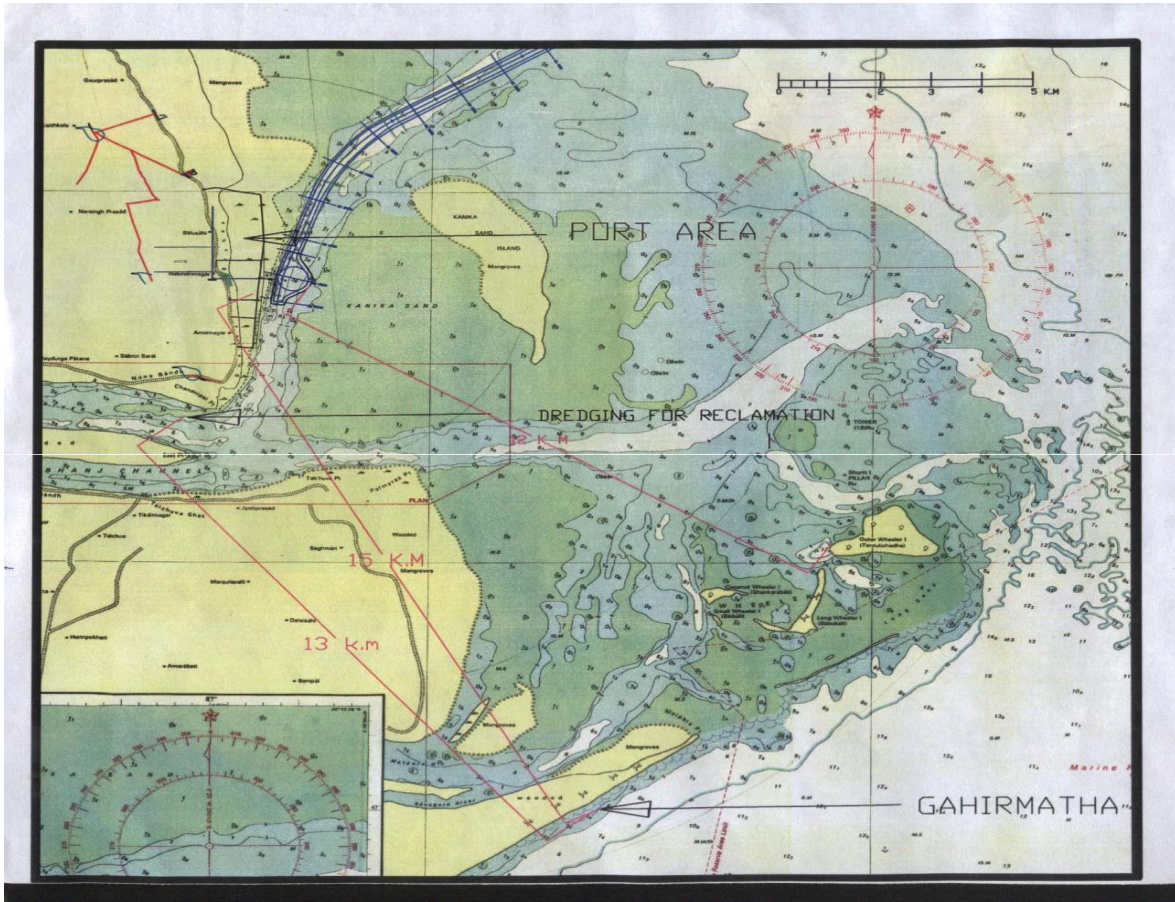
**DISASTER / EMERGENCY MANAGEMENT PLAN**

**IN Case of Emergency, (ICE NO.)**

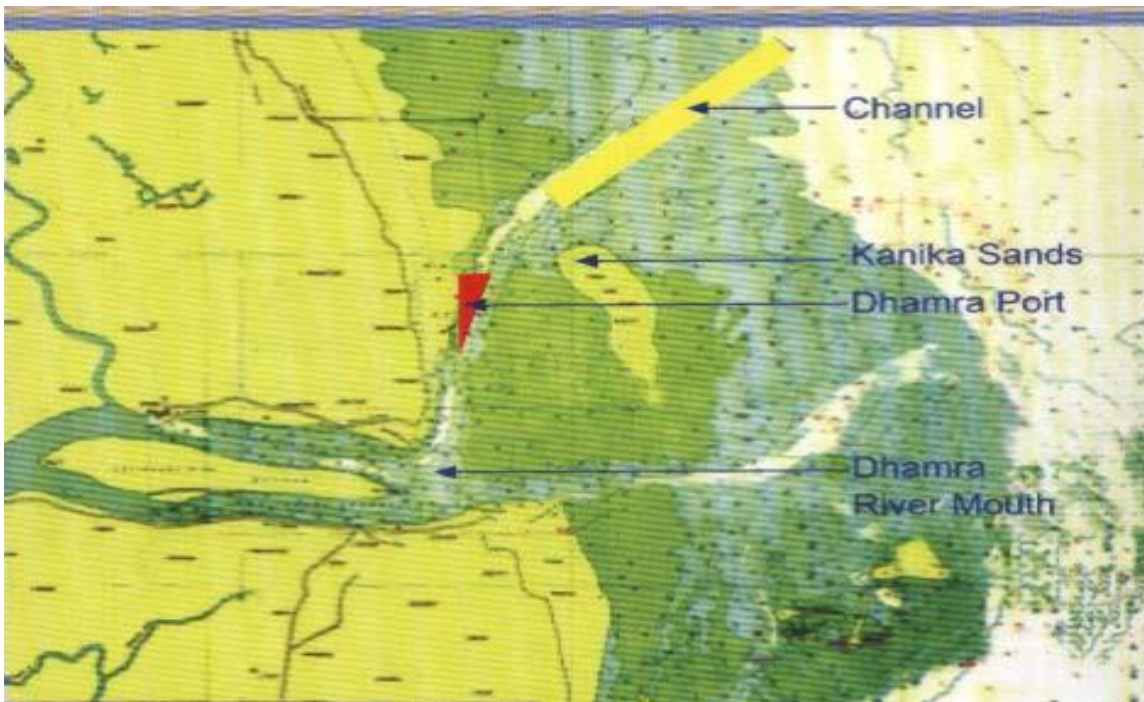
S. N.	Points	Tel. No.	VHF Channel
01	District Emergency	1077 / 06784-251881	
02	Port Signal Station	784400376	
03	Emergency Response & Security Ops Centre	9937287436/06786270217	2
04	Port Fire Station	7381251111 / 7064460048	
05	Main Gate	37287432	
06	CEO	784443132	
07	COO	880015221	
08	Head Security	8828101325	
09	Head Marine	7894408123	
10	Head Admin	7894433334	

**ALERT ALARM – Prolong Blast for 05 Sec with gap of 05 Sec for 01 min.  
Termination of emergency – Continuous sounding for 45 Sec.**

DHAMRA PORT AREA



DHAMRA PORT LIMITS AS GIVEN ON CHART





### Port Layout



## Statement of Objectives

A 'Significant Disaster incident' within Port would pose unique challenges inter departmentally and to responding agencies. It is therefore recognised that a coordinated crisis and consequence management plan is required to provide an effective disaster response. The purpose of this plan is to establish a framework for a coordinated inters agency and port community response to a significant disaster incident occurring within the Dhamra Port.

  
COLLECTOR  
BHADRAK

**CONTENTS**

<b>SL.NO</b>	<b>SUBJECT</b>	<b>PAGE NO</b>
1.	PORT LAYOUT	3
2.	STATEMENT OF OBJECTIVE	4
3.	INDEX OF CONTENT	5 - 6
4.	INTRODUCTION	7-8
5.	BASIC DEFINITIONS	9 - 10
6.	KEY OBJECTIVES OF PLAN	11
7.	ASSUMPTIONS	12
8.	HIERARCHY OF PLAN	13
9	ORGANISATIONAL CHART	14
10.	TYPES OF DISASTER	15
11.	DEGREES OF DISASTER	16
12.	DISASTER CLASSIFICATION	16-17
13.	FLOW OF INCIDENT STAGES	18 - 19
14.	AREA VULNERABILITY & THREAT MATRIX	20
15.	EVENT SCENARIOS	21
16.	EMERGENCY COMMAND STRUCTURE	22
17	ROLE OF KEY PERSONS OF COMMAND STRUCTURE	23-27
18	EMERGENCY COMMUNICATION CHART	28
19.	ROLES & RESPONSIBILITY - EXTERNAL	29 - 31
20.	ROLES & RESPONSIBILITY - INTERNAL	32-48
21.	COMMUNICATION SYSTEM	49 - 50
22.	COMMUNICATION CHANNEL STRUCTURE	51
23.	PORT EMERGENCY FACILITIES	52 - 53
24.	EVACUATION	54 - 55
25.	FIRE & EXPLOSION RESPONSE PLAN	56
25.	FIRE – JETTY	57
27.	FIRE - ADMINISTRATIVE BUILDING	58
28.	FIRE – BMH AREA	59
29.	OIL / CHEMICAL POLLUTION	60
30.	COLLISION OF VESSEL	61
31	FIRE / EXPLOSION	62
32.	VESSEL GROUNDING	63
33.	SINKING OF VESSEL	64
34.	CYCLONE	65 - 75

<b>35.</b>	<b>FLOODS</b>	<b>76</b>
<b>36</b>	<b>EARTHQUAKES</b>	<b>77</b>
<b>37</b>	<b>TSUNAMI</b>	<b>78</b>
<b>38</b>	<b>PORT TIMEFRME RESTORATION GUIDELINES</b>	<b>79</b>
<b>39</b>	<b>BOMB THREAT MANAGEMENT</b>	<b>80 - 84</b>
<b>40</b>	<b>WAR ALERTS</b>	<b>85</b>
<b>41</b>	<b>TERRORIST – HOSTAGE SITUATION</b>	<b>86 - 87</b>
<b>42</b>	<b>HANDLING VIOLENT ACTIVITIES OF WORKERS</b>	<b>88</b>
<b>43</b>	<b>SHIP SECURITY ALERT IN PORT LIMITS</b>	<b>89</b>
<b>44</b>	<b>SPILLAGE OF HAZARDOUS SUBSTANCES</b>	<b>90</b>
<b>45</b>	<b>SPILLAGE OF HAZARDOUS / NOXIOUS GAS</b>	<b>91</b>
<b>46</b>	<b>CHECK LIST OF INCIDENTS</b>	<b>92 – 102</b>
<b>47</b>	<b>AMENDMENTS</b>	<b>103</b>
<b>48</b>	<b>DISTRUTION LIST</b>	<b>104</b>
<b>49</b>	<b>TELEPHONE NUMBER</b>	<b>105 - 106</b>

## INTRODUCTION

The Dhamra Port Company Ltd. (DPCL) is one of the deep draft ports of India with a draft of 18 meters, which can accommodate super cape-size vessels up to 180,000 DWT. It is an all-weather, multi-user, multi-cargo port with a potential to handle more than 100 MMTPA of dry bulk, liquid bulk, break bulk, containerised and general cargo.

DPCL is a 100% subsidiary of Adani Ports and SEZ. DPCL has been awarded a concession by Government of Odisha to build and operate a port north of the mouth of river Dhamra in Bhadrak district on BOOST (Build, Own, Operate, Share and Transfer) basis for a total period of 34 years including a period of 4 years for construction.

It is poised to become the largest and most efficient port in the East coast of India.

The Port is situated in an area encompassing approximately 7500 acres and is in constant state of expansion. The port is unique in the sense that the operations & project expansion is concurrent.

### Location

Situated between Haldia and Paradeep, Dhamra Port is well sheltered between the mainland and Kanika Sands Island on the mouth of the river Dhamra. The location of Dhamra is in close proximity to the mineral belt of Orissa, Jharkhand and West Bengal and its dedicated connectivity will help serve this hinterland with the greatest efficiency.

Any damage to this installation due to “Natural calamities, worksite accidents, or manmade / created situations”, will have catastrophic impact

Periodic Security Vulnerability Assessment “ SVA “ is carried out by a team of internal and external experts to understand the various causes termed as threats, which are attributable and detrimental for affecting the port operations under different adverse situations.

To have effective crisis response & management system in place, it is imperative to prepare a well elaborated contingency plan. It will enable concerned teams to understand their roles & responsibilities for a coordinated resolute effort in successfully handling the situation before emergency, during emergency and after emergency.

To combat the perceived threats through the deter, delay, detect and respond tactics, Security has taken adequate measures by employing ex-servicemen,



Police and in-house specially trained personnel as core and outsourced staff aided by clear defined processes and Security technology.

The port area represents a complex interphase between human activities and natural environment. Inherent to its location a port is exposed to natural calamities like cyclones, floods, earthquake, Tsunami and similarly human activities may lead to hazardous situation arising out of handling and storage of dangerous goods and shipping incident caused by collisions, grounding, sinking and oil spillage. The mitigation of these major incidents requires coordinated effort involving inter department and external organization.

The Disaster Management Act 2005 envisages disaster and its management as

**Disaster** - Disaster means a catastrophe, mishap, calamity or grave occurrence in any area, arising from natural or man-made cause, or by accident or negligence which result in substantial loss of life or human suffering or damage to, or degradation of, environment, and is of such nature or magnitude as to be beyond the coping capacity of the community of the affected area.

**Disaster Management** - Disaster Management implies continuous and integrated process of planning, organizing, coordinating and implementing measures which are necessary as expedient for

- Prevention of danger or threat to any disaster.
- Mitigation or reduction of risk of any disaster or its severity or consequences.
- Capacity building.
- Preparedness to deal with any disaster.
- Prompt response to any threatening disaster situation or disaster.
- Assessing the severity of magnitude of effect of every disaster.
- Evacuation rescue & relief.
- Rehabilitation and reconstruction.

## **BASIC DEFINITIONS**

1. **On-Site Plans** - address incidents originating within the port area
2. **Off-Site Plans** - address incidents originating outside the port area but affecting the port operations or from port to outside
3. **Risk** - The chance of an adverse event occurring in some period of time or in a specific circumstance, in the process of engaging in an activity
4. **Hazard** - A phenomenon which may cause disruption to persons and their infrastructure; and is an undesirable outcome in the process of engaging in an activity
5. **Disaster** - An event which can cause immense damage and disruption to the (Port and its - facilities) infrastructure causing loss to lives and property;
6. **Emergency** - Serious sudden situation or occurrence that happens unexpectedly and demands immediate action to correct or to protect lives and/or property.
7. **Crisis** - Unstable situation of extreme danger and may lead to the following elements; - Surprise- -Rapid flow of events-Lack of or insufficient information-Internal conflict-confusion
8. **Disaster Management** - Set of actions and processes designed to lessen disastrous effects before, during and after a disaster.
9. **Preparedness** - Measures undertaken in advance to ensure that individuals and agencies will be ready to react, such as emergency plans, logistical support and resource, inventories, and emergency information & communications systems

- 10. Response** - Those measures undertaken immediately after a disastrous or hazardous event has occurred and for a limited period of time thereafter, primarily to save human life, property, treating the injured, prevent further injury and other forms of property loss and to mitigate disruption. They include response plan activation, declaration and communication of emergency to the concerned potential population and facilities at risk, opening and staffing of emergency operation centers, mobilization of resources, issuance of warnings and directions and provision of aid.
11. **Mitigation** - Those measures and activities aimed at reducing or eliminating hazards or lessening the impact of the event.
12. **Prevention** - Mitigation of hazard effects through public education, early warning or detection systems, safety systems, building and land- use codes and regulation.
- 13. Recovery** - Those measures undertaken to restore normal conditions. The time frame for recovery begins as soon as a reduction in critical response activities permits the re-allocation of resources and could include physical restoration and reconstruction.
14. **All Clear** – Direction given by the incident coordinator (or authorized person) that the emergency situation has been revoked and that there is no further damage.
15. **Assembly Areas** – On decision of evacuation, the place where people will move first to assembly area where further instruction will be given.
16. **Suspect Device** – Any item that contains an explosive or mechanical device designated to explode by means of timer, touching, impact or by remote control a suspect device may appear suspicious by its placement, the circumstances surrounding its location or other information that may cause any person to become suspicious and decide that further investigation is necessary.

**KEY OBJECTIVES OF THE PLAN**

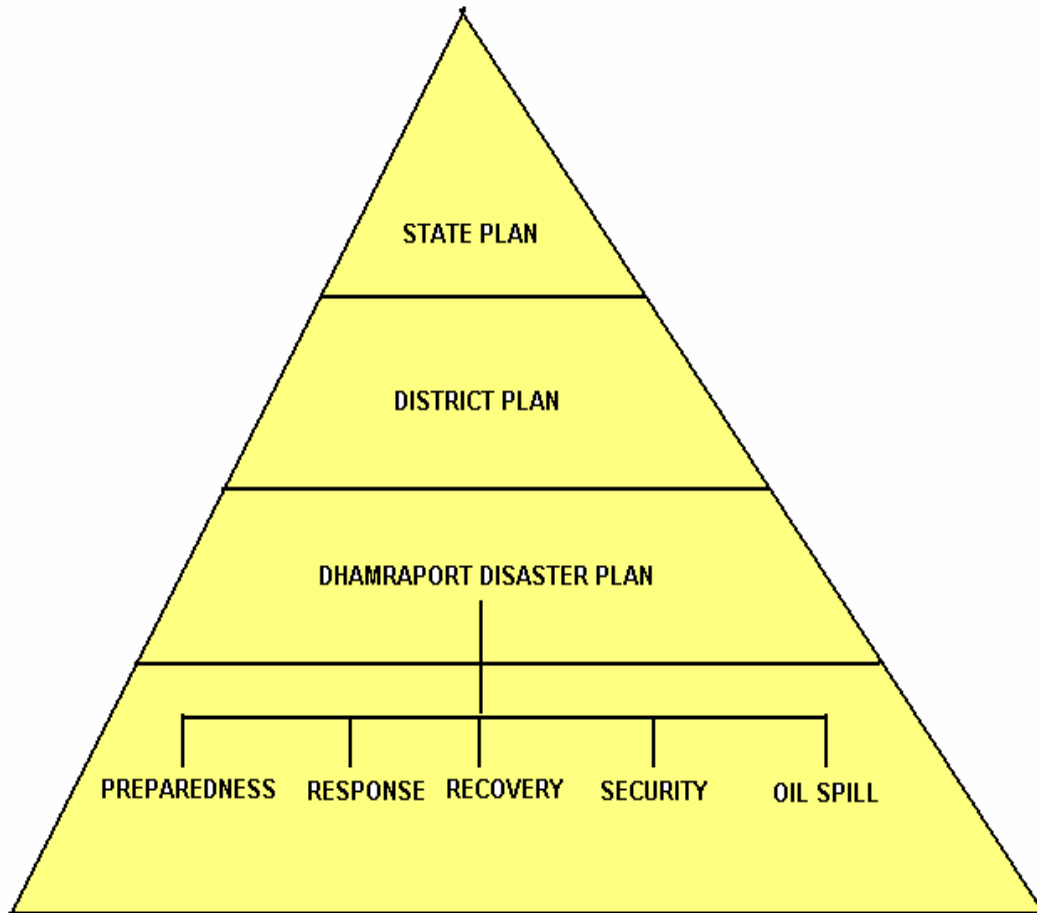
- i. To provide the frame work for an integrated multi-agencies crisis response to a significant disaster incident within the Port of Dhamra
- ii. To identify and list out credible contingencies / emergency scenarios, both natural and manmade, endangering human life, property & environment.
- iii. To provide help in restoring normalcy and infuse confidence building measures.
- iv. Clarify specific roles & responsibilities.
- v. Enhance the Port community preparedness for any emergency incident.
- vi. Provide members of the port community affected by a significant emergency incident with
  - 1. Timely advice.
  - 2. The safest possible environment during the resolution of the incident.
- vii. Reduce the adverse impacts of an emergency incident on personal, business and the general port community.
- viii. Provide a management framework for the sub plans and associated specific response plan.
- ix. Provide continued education review and testing.

## ASSUMPTIONS

The plan assumes;

- The arrangements already in place in relation to counter terrorism and disaster management adequately address state responsibilities in relation to responses and recovery from such incidents. This plan does not address consequence management responsibilities and arrangements.
- In relation to mass warning and mass communication that a variety of technological systems will be progressively implemented to provide information to both the port community and general population when required.
- All buildings in the port will have in place accurate and practiced fire and evacuation plan
- All owners, managers, operators and tenants will be provided with information via an education strategy regarding their responsibilities during a significant emergency incident including an evacuation.
- Those stakeholder agencies have sufficient trained and equipped personnel to perform the roles and responsibilities identified in the plans.
- That stakeholder agencies have in place effective operational plans, standard operating procedures or similar which details the specific responses of that agency in support of the plan.
- Those stakeholder agencies have in place redundancy plan to provide a response in the event that particular resources are unavailable.

HIREARCHY OF PLAN





## TYPES OF DISASTER

1. A criminal / terrorist attack leading to siege, hostage situation, sabotage.
2. Major public disturbance / riot / industrial unrest.
3. Use of threats to use explosive or explosive situation.
4. Explosion linked to hazardous cargo handling
5. Fire
6. Escape, intentional release or threat to release due to – oil, gas, chemicals or radioactive, biological or flammable materials
7. Accidents – Collision, grounding and sinking of ships, transport or work place accidents.
8. Natural calamities – Cyclone, Flood, Earth quake & tsunamis.
9. Oil spill from vessel



## **DEGREES OF DISASTER**

Two degrees of disaster envisaged. They are **On-Site** and **Off-Site** respectively.

### **ON-SITE**

Concerns Port area and Port Authority – Ability to fight disaster within its capability and if necessary then summoning external help under mutual-aid arrangements, keeping complete control over the activities.

### **OFF-SITE**

Concern beyond port area, affecting environment and neighbouring population. The role of governmental authorities is involved and the government's decisions and help are frequently needed. The decision to designate and declare such emergency and implementing Disaster Management Plan is prerogative of CEO, Dhamra Port Company limited.

## **DISASTER CLASSIFICATION**

### **Level 1:**

- Incident within port area
- Minor in nature,
- Low level of personnel injury,
- Business discontinuity up to 06 hours.
- Within Port community resources.
- Emergency Management group leader is Dept Head.
- Nature of Disaster - Building/Shed Fire, Electric Supply disruption, labour accident, vessel accidents

**Level 2:**

- Incident within port area.
- Limited and moderate level of personnel injury, possible death(s).
- Business discontinuity from 06 - 24 hours.
- Damage to port infrastructure.
- Outside assistance may be required.
- The Crisis Management group leader is CEO.
- Nature of Disaster - Gas Leaks / Chemical discharge / Oil Spills / Terminal Fires / Explosions / Industrial unrest / Intrusion / Sabotage / Hostage situation / Collisions / Grounding

**Level 3:**

- Disaster of a severe and critical nature within and beyond Port area.
- High level of personnel injury (and deaths),
- Business discontinuity, damage to port infrastructure and loss of capability beyond 24 hours.
- Affecting port and contiguous areas.
- Besides Port resources, assistance from outside agencies is required.
- The Crisis Management Group leader is CEO.
- Information to external agency.
- Nature of Disaster - Gas Leaks / Chemical / Oil Spills, Fires / Explosions / Cyclones / Tsunamis / Terrorist attack / Sedition or mutiny by security personnel / Collisions / Groundings.

**INITIATION OF CENTRAL CONTROL ROOM – ON DISASTER LEVEL - II  
or III**

CEO of DPCL will decide when members of the Central Disaster Management Group will operate from their respective Dept. control rooms and attend joint meetings at the Central Disaster Management Control Room or when total central control room attendance is required.

## **FLOW OF INCIDENT STAGES**

**Response to major incident typically will move through following phases:**

### **First Stage (CRISIS)**

This stage involves the initial crisis management response. This stage will predominantly involve the first response agencies Security, Fire, Rescue and ambulance. It will focus on

- Prevention of loss of life.
- Gathering of intelligence to give appropriate response.
- Isolation and containment of the incident to prevent the spread of the hazard.
- Activation of the resources to the incident site.
- Establishing command control and coordination structure.
- Commencement of the combat of the incident.
- Evacuation of person at immediate risk.
- People who are affected by incident and not at immediate risk moved to shelter in place.
- Business as usual in unaffected area.

### **Second Stage (Immediate Consequences)**

It commences when the parameters of the incident are better understood. The incident is isolated and contained, and a command and control structure is in place. Responses in the second stage involve:

- Coordinated combat of the incident.
- Involvement of supporting agencies ( e.g. Inter Department, Police,
- Local Govt. Community groups and Media)
- Large scale evacuation
- Identification and triage of injured person
- Establishment of support to affected persons and responding agency
- personnel.

### **Subsequent stages**

It focuses on

- Resolution,
- Investigation,
- Recovery,
- Shelter,
- Rehabilitation and return.
- Evacuation of the affected area completed.

**DHAMRA PORT – AREA VULNERABILITY & THREAT MATRIX**

X = Slightly Vulnerable, XX = Moderately Vulnerable, XXX = Highly Vulnerable

Threats Vulnerable Areas	Vessel Accidents Collision	Ground Land	Transport Personnel; Accident	Fire Explosion Manifold Pipeline	Pollution Oil Chemical	Terrorism Bomb War	Arson Criminal Technical	Failures Power, Transport	Occupational Accidents Strikes	Cyclone -Floods	Tsun- ami Earth Quake
<b>Vessel Movement</b>	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Approach Channel	XXX	XXX	X	X	X	X	X	X	X	X	X
Turning Basin	X	X	X	X	X						
Unloading Berth	XX	X	X	X	X	X	X	X	X	XX	X
Loading Berth	X	X	X	X	X	X	X	X	X	XX	X
<b>Storage-Transfer</b>	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Coal stack yards			XX			X	X	X	X	XX	X
Iron Ore stack yard						X	X	X	X	XX	X
<b>Cargo Transfer</b>	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Train tracks-						X				XX	XX
Cranes & Ship Loaders						X	X	X	X	XX	XX
Bulk cargo conveyor						X	X	X	X	XX	X
<b>SERVICES</b>	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Control gates			X			XX		X	X	XX	X
Emergency Generators			X			X	X	X	X	XX	X
Electric Substations			X			X	X	X	X	XX	X
Train siding Locos, Wagons,			X			X	X	X	X	XX	XX
Signal station-			X			X	X	X	X	XX	X
Fire station			X			X	X	X	X	XX	X
Port tugs, crafts, dredger	X	X	X	X	X	X	X	X	X	XX	X
<b>ADMINISTRATIVE</b>	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Administration Building & Parking			X			X	X	X	X	XX	X
Customs Area & Weigh Bridge			X			X	X	X	X	XX	X
Port officers Quarters			X			X				XX	X

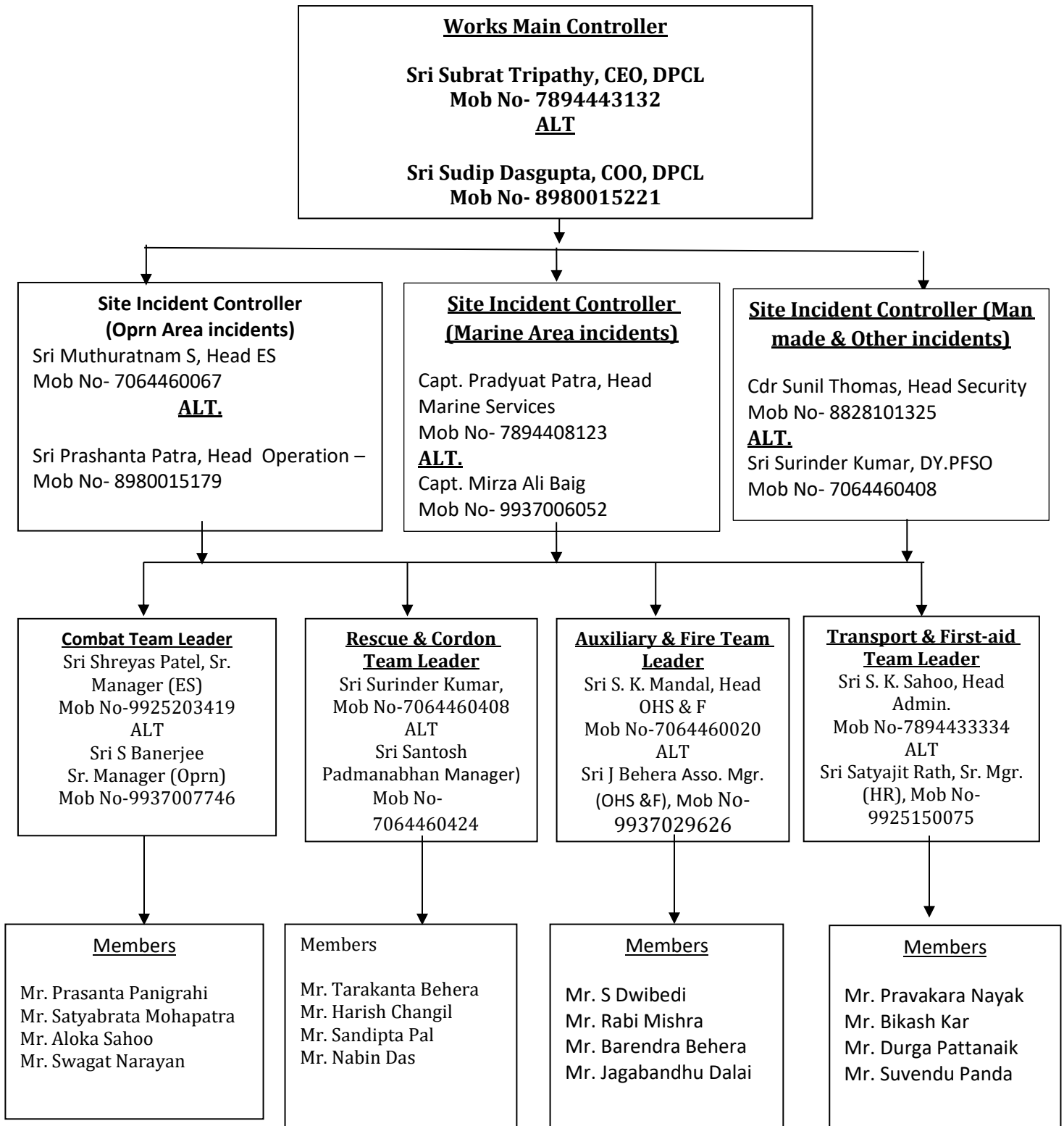
**EVENT SCENARIOS**

Probability:: Low=once 10-50yrs; Moderate=once 2-10yrs; High=once annually

Impact/Preparedness/Risk Threat:: 0=Very Low / 1=Low / 2= Moderate / 3 = High

EVENT/ SCENARIO SPECTRUM	Earl y Warnin	Probab il ity of Occurr e	Duratio n Impact	Impact on propert y	Impac t on peopl e	Time to Restore Facilitie s	RIS K THRE AT
Cyclon	6h-12h	Mod	36-	3	3	3-10 d	High
Flood	6h-12h	Low	6hours	3	3	3 -10 d	High
Earthquake	Nil	Low	1hr	3	3	7-21 d	High
Tsunami	30 Min.	Low	30 Min	3	3	7-21 d	High
<b>Marine Accident</b>							
Collision	< 1min	Low	<1hr	2	0	4 h	Moderat
Grounding	< 1min	Low	1-48h	2	0	1-48h	Moderat
Fire/Explosion	< 1min	Low	0.5-12h	1-2	1-2	12-6h	Moderat
<b>Transport</b>							
Rail	< 1min	Low	< 1min	0.05	0.1	1-48h	Lo
Road Accident	< 1min	Low	< 1min	0.05	0.1	<1h	Lo
<b>Pollution-</b>							
Oil Spill	< 30min	Mod	1-12h	1	1	1-30d	Moderat
<b>Fire-Admin Building</b>							
Parking/Gates	< 1min	Low	1-72 h	1	0.5	12-6h	Moderat
<b>Function Failure</b>							
Elec sub station	< 1min	mod	1-24h	0	0	12-48h	Lo
Emergency	< 1min	mod	1-24h	0	0	12-48h	Lo
Pipelines failure	< 1min	mod	1-24h	0	0	12-48h	Lo
Evacuation routes	< 1min	mod	1-24h	0	0.2	12-48h	Lo
Fire Alarm failure	< 1min	mod	1-24h	0	0	12-48h	Lo
Fire station failure	< 1h	mod	1-24h	0	0	12-48h	Lo
Water system	< 1h	mod	1-24h	0	0	12-48h	Lo
Communications	< 1h	mod	1-24h	0	0	12-48h	Lo
Medical facilities	< 1d	mod	1-24h	0	0	12-48h	Lo
Sewerage failure	< 1h	mod	1-24h	0	0	12-48h	Lo
<b>Human related</b>							
Labour	24h	mod	<24h	0	0	12-48h	Lo
Civil disturbance	< 1d	mod	<24h	0	0	12-48h	Lo
<b>Terrorism &amp; War</b>							
State of War	<7 d	mod	>7d	0	3	>48h	High
Bomb Threat	< 3h	mod	1-6h	0	1	>48h	High
Hostage Threat	< 3h	Low	1-6h	0	0.5	>48h	High
Mass Casualty	< 3	Low	1-6h	0	1	>48h	High
Terrorist attack	Nil	Mod	1-6 h	1	3	> 48 h	Mod

EMERGENCY COMMAND STRUCTURE:



**ROLES OF KEY PERSONS OF EMERGENCY COMMAND STRUCTURE:****WORKS MAIN CONTROLLER (WMC):-**

- ⇒ On being informed, rush to the scene/ take stock of the situation and take overall charges of the situation
- ⇒ Make quick assessment of the situation and decide declaration of emergency by instructing to **blow the siren intermittently three times (each one having 30 seconds span) with 10 seconds interval.**
- ⇒ Be in contact with all the team leaders & make continuous review and assess the possible developments to determine the extent of damage to plant and human beings.
- ⇒ Shut-down the port operations, if necessary
- ⇒ Ensure that Injured Person(s) are receiving adequate attention.
- ⇒ Advise to concern HODs to inform the statutory authorities and seek help of mutual aid if required to control over the emergency situation.
- ⇒ Advise Head Corporate Affairs and Head IR to inform the local public Administration about the scenario.
- ⇒ Take stock of the situation in regular interval.
- ⇒ Issue the authorized statements to the media services
- ⇒ Report all statutory authorities in the prescribed manner
- ⇒ Communicate to employees about the mishap, measures taken and giving confidence to employees for avoiding recurrence of the incident by investigation and ordering preventive measures to be implemented.
- ⇒ Declare closure of the emergency after normalcy of the situation and give direction to blow the emergency closer siren [**one long siren for 120 seconds**]



**SITE INCIDENT CONTROLLER:-**

- ⇒ On being informed or hearing Emergency siren, will contact the Works Main Controller and rush to the emergency scene and take overall charges for controlling incident.
- ⇒ Make quick assess about the gravity of the situation and appraises Works Main Controller
- ⇒ Intimate Leader of all Emergency Teams as per the command structure.
- ⇒ Give instruction to Operation In-charge to take required measures for process isolation / electrical isolation. Thereafter, give instruction to combat team for firefighting.
- ⇒ Ensure that the situation is controlled by arresting spillage, fighting fire, shutting of the valve and equipment.
- ⇒ Ensure combat & rescue teams are in action and guide/monitor both the teams for smooth operation.
- ⇒ Report the development of the situation time to time to Works Main Controller.
- ⇒ Provide the required information to emergency team leaders
- ⇒ Preserve the evidences for the subsequent inquiries

**COMBAT TEAM LEADER:-**

- ⇒ On hearing the emergency siren or being informed, rush to the scene with sufficient mobile equipment's in the minimum possible time
- ⇒ Ensure the manpower are available in control rooms and MCCs for quick responds and action as per requirement of the incident controller.
- ⇒ Ensure the availability of manpower in utilities areas for smooth function of emergency equipment's.

- ⇒ Assist the Incident controller for mobilization of equipment's and other engineering support.
- ⇒ Keep in contact with other team leaders and incident controller for emergency assistance required time to time.
- ⇒ Assist the Site Incident Controller till the situation is under control.

**COMBAT TEAM MEMBERS:-**

- ⇒ On hearing the emergency siren, rush to the scene to assist the Team Leader.
- ⇒ Mobilize the equipment's required for combating the emergency situation.
- ⇒ Co-ordinate with control room/MCCs/ Utilities Dept. as per instruction of Team Leader
- ⇒ Ensure that the Fire hydrant pump station and other utilities functions are ready to serve for emergency requirement.
- ⇒ Assist the Team Leader till the situation is under control.

**RESCUE & CORDON TEAM LEADER:-**

- ⇒ On hearing the emergency siren or being informed, rush to the scene with team members in the minimum possible time.
- ⇒ Ensure the team members resume their position with appropriate equipment.
- ⇒ Keep necessary equipment of first-aid for preliminary treatment.
- ⇒ Inform Ambulance to reach at emergency spot.
- ⇒ Keep the ambulance ready to carry the injury persons to the hospital
- ⇒ Ensure the proper personal protective equipment are used during rescue operation
- ⇒ Cordon off the area to restrict the entry of unwanted personnel to spot
- ⇒ Maintain a sense of discipline at spot and avoid unwanted chaos at spot.

- ⇒ Assist Fire team if required by the Team Leader
- ⇒ Maintain the traffic control and guide the emergency vehicle to reach the spot.
- ⇒ Guide the mutual aid partners for their course of action at the site.
- ⇒ Guide the non-essential persons to reach assembly point.
- ⇒ Arrangement of roll call for finding out missing person if any.
- ⇒ Restrict the inward entry at main entry gate except emergency vehicles.  
Allow personnel to go out, if required, with counting of personnel going out.

**RESCUE & CORDON TEAM MEMBERS:-**

- ⇒ On hearing the emergency siren, rush to the scene with appropriate personal protective equipment.
- ⇒ Evacuate the workers from emergency site to assembly points.
- ⇒ Act as per the instruction of Team leader.
- ⇒ Rescue the injury persons and arrange for treatment.
- ⇒ Cordon off the area and maintain the sense of discipline at incident spot.

**AUXILIARY & FIRE TEAM LEADER:-**

- ⇒ On hearing the emergency siren or being informed, rush to the scene with firefighting team with sufficient equipment in the minimum possible time
- ⇒ Ensure the team members resume their position with appropriate equipment
- ⇒ Start firefighting on getting instruction from Site Incident controller & monitor the firefighting operation to control the situation
- ⇒ Intimate statutory authorities over phone as per instruction of Works Main Controller.
- ⇒ Intimate nearest Fire Station over phone

⇒ Intimate mutual-aiders over phone

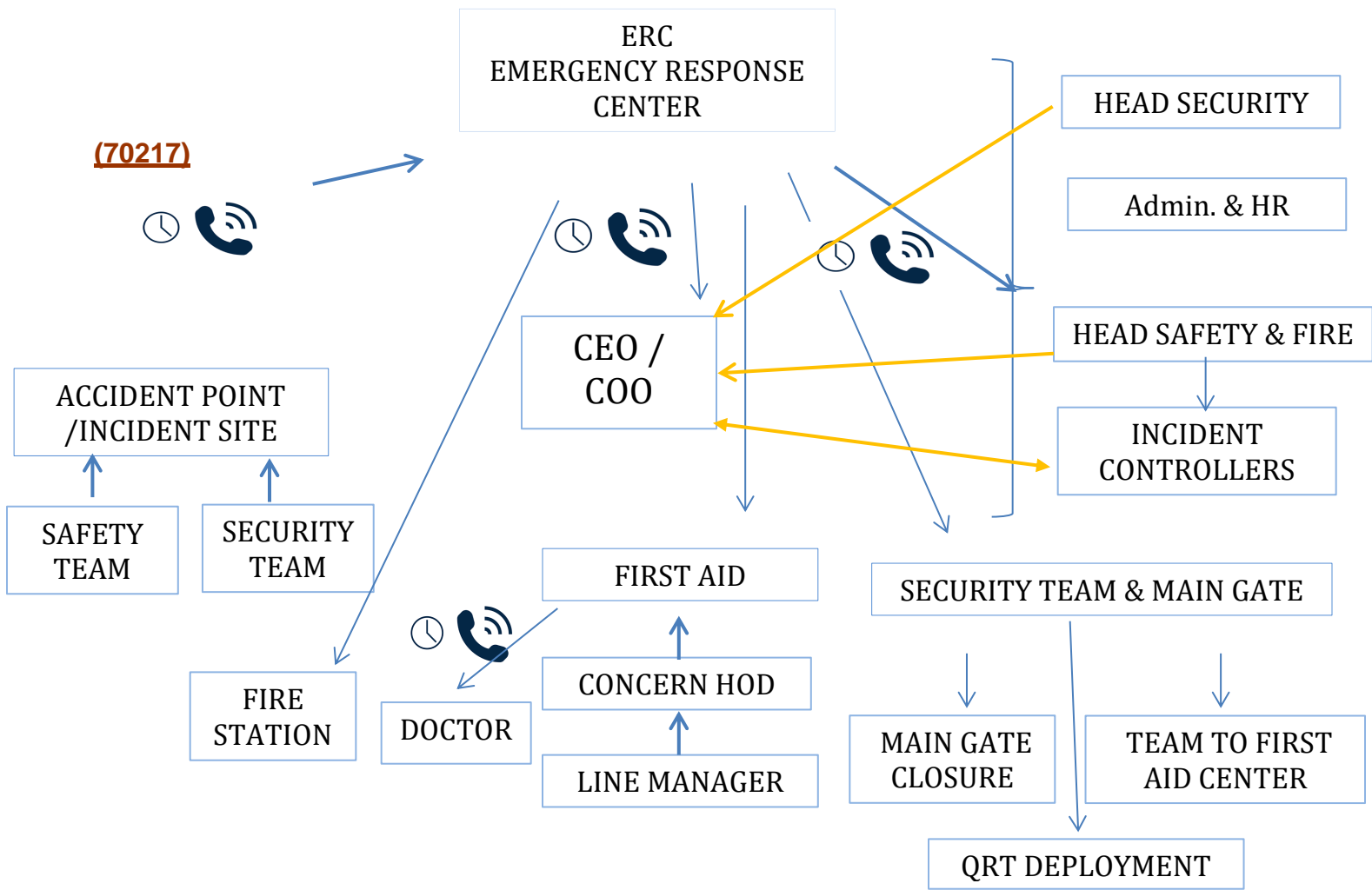
**FIRST-AID & TRANSPORT TEAM LEADER:**

- ⇒ Keeps the first-aid and primary health center staff, equipment ready to take care of immediate medical needs
- ⇒ Ensure the availability of First-aid team to attend the injured persons.
- ⇒ Mobilize the paramedic staffs from residence if situation demands.
- ⇒ Takes care of victim's family
- ⇒ Make all arrangement like transport, other needs, arrange finance
- ⇒ Ensure all casualties are shifted to hospital for medical treatment
- ⇒ Keep records of casualties and provide information of the matter to Works Main Controller

**AUXILIARY & FIRST-AID TEAM MEMBERS:-**

- ⇒ On hearing emergency siren, rush to the scene.
- ⇒ Ensure the Fire team in position.
- ⇒ Start fire-fighting once the Incident Controller gives clearance after isolation of potential energy sources.
- ⇒ Provide immediate first-aid treatment to the victims
- ⇒ Ensure ambulance vehicle ready
- ⇒ Coordinate with combat team, rescue team, statutory authorities and mutual-aid partners
- ⇒ Assist the Team Leaders till situation is under control.

**COMMUNICATION CHART IN CASE OF EMERGENCY:**



**Note – in the absence of the primary responder, the deputy/Shift In charges of the respective departments will take over the functions till arrival of primary responder.**

## **ROLES & RESPONSIBILITIES**

As this plan has an all hazards approach, the relevant active legislation lead agency and combating authority will differ dependent on the incident. The plan set the framework for roles and responsibilities regardless for cause of incident are enumerated below

### **EXTERNAL**

#### **District Disaster Coordinator (District Magistrate – Bhadrak)**

In the event of activation of Disaster Management Plan the District Collector Bhadrak is the first point of contact for managing the impact of an event on the community.

#### **INDIAN NAVY (NOIC ORISSA) AT INS CHILKA COAST GUARD (COMDIS 7) AT PARADEEP**

The Navy & Coast Guard to assist as follows

- Sanitization of port channel, and anchorage area.
- Assist in evicting vessel in event of collision, grounding and explosive condition.
- Countering oils spill
- Assist with divers and diving equipment.

#### **Orissa Police (Under Superintendent of Police – Bhadrak)**

The Police Station – Dhamra/Bansada will be an early public and agency contact point and the first respondent to an incident scene first point of contact. The initial stages of response to an incident the DPS carries out the 'First Response Management' role.

- a) Establishing and manning incident onsite manning post.
- b) Establishing major incident center (on port Administrative building)

- c) Security issue including security and security support for all involved agency.
- d) Crowd and traffic control.
- e) Rendering safe of explosive devices. f) Establishing victim registration.
- g) Controlling entry / exit points to and at relevant areas (i.e. incident scene, emergency situation specified area, potential evacuation area.
- h) Staging and marshalling areas off site for supporting agencies / resources.
- i) Coordination of public protection strategies including evacuation j) Intelligence collation and dissemination
- k) Investigation

### **Dhamra Fire Station Service**

The Dhamra Fire station service to assist on request by providing

- Adequate number of fire tender for fighting fires and controlling pollution.
- A senior officer will join the Base Control to co-ordinate the action.
- Incident control of all fire tenders.
- In the event of hazard material incident – establishing hazard material zone.
- Safety of personnel.
- Responsibility for operation within hazards material zone.

### **Health Services (Chief Medical Officer)**

The Chief Medical Officer Dhamra is responsible for

- On site medical care and clinic coordination arrangements
- Establishment of casualty collection, initial triage, treatment and transport areas.
- On site medical support to other incident responders
- Casualty treatment information to off site health facilities
- To assist Port Health service on activation.

### ORISSA STATE ELECTRICITY BOARD

To ensure continuous supply of electrical power in and around the affected area for smooth combating of emergency.

### ORISSA POLLUTION CONTROL BOARD

The authority will assist the port, in

- collection and analysis of spilled oil/chemical,
- Recommended the steps necessary to remove or disperse or otherwise deal with such articles.
- Assist with anti-pollution machinery and personnel.

### BHADRAK MUNICIPAL CORPORATION

To ensure uninterrupted supply of water in the affected area and also help in rehabilitation of evacuated persons.

### MERCANTILE MARINE DEPARTMENT

M.M.D will assist

- Evaluation of damages to the port
- Negotiating with ship owner regarding demurrage charges
- Finalising penalty & clean-up charges regarding chemical/oil-spill contingency.

### SHIP OWNERS/AGENTS

The Ship owners / agent will help

- Provide resources within their capacity in combating emergency
- Devising ways for early settlement of claims
- Inform Base Control about their cargo and crew which is stranded in the affected area.
- In case of Oil spillage arranging empty tanker for storing and transformation of fuel.



**INTERNAL DEPT.**

The primary focus of DPCL disaster management system is to mitigate the effects of disaster on port community wherever possible or practical, while preparing to respond when disaster occur. The role and responsibilities specifically for each phase being

**Specific responsibilities – Response Phase**

- Activate the disaster management response team and also crisis response team.
- Activate the relevant / workplace emergency team for the first strike response including traffic and pollution
- Thereafter assist emergency services to respond to the event.
- Assist with providing relief for persons affected by disaster.

**Specific responsibilities – Recovery Phase**

- Satisfy immediate, essential personal and port community needs to extent of port capability.
- Maintain liaison and timely communication with district disaster coordinator.
- Contribute to the recovery function coordinated by District Disaster coordinating authority.
- Coordinate the recovery of physical infrastructure.
- Coordinate activities with relevant Disaster district initiatives and plans.
- Participate in long term recovery, reconstruction and rehabilitation
- Communicating regarding restoration of Port activities.

**MANAGEMENT GROUP (RESPONSIBILITIES)****CRISIS MANAGEMENT GROUP ACTIVATION AT LEVEL 2 & 3****CENTRAL DISASTER MANAGEMENT GROUP- BASIC FUNCTIONS**

<b>Team Leader:</b>	<b>Chief Executive Officer / CEO</b>
<b>Members:</b>	<b>COO, Head Corporate Affairs, Head Operations, Head ES, Head Security , Head Safety, Head Admin and Head Medical Services.</b>
<b>Basic Functions</b>	
1-Monitor and analyze reports from the On Site Action team and identify the area / population in the emergency zone.	
2-Activate the Response Plan.	
3-Support the Action Group with materials, equipment, information and human resources.	
4- Monitoring and analyzing reports from action team and making alterations in the current mode of action if deemed necessary.	
5-Adjust the Disaster classification of the incident and actuate the Central Control Room.	
6- Coordinate with external organizations, State Govt. as deemed necessary.	
7- Make the necessary arrangements and funds for evacuation, transportation, food & supplies.	
8-Make media statements and reports to State Govt. / MOS.	
- Situation, draws conclusions and makes necessary amendments to the plans.	

**ON SITE ACTION GROUP - BASIC FUNCTIONS**

<b>Team Leader:-</b> <b>Head Marine – Emergency related to Ship Safety &amp; Stability</b> <b>Head Security – All other cases</b>
<b>Members from following Dept. – ME / CE / Electrical / Admin / IR/ Marine / Security / Medical / (Mutual Aid Agency representative if required)</b>
<b>Basic Functions – At Disaster Level – 1 / 2 / 3</b>
<b>1-</b> Assess & classify Incident - nature - location - severity - casualties - resource requirement – time to control
<b>2-</b> Activate elements of the disaster management plan and decide which plan to implement.
<b>3-</b> Combat emergency with resources at disposal, conduct search, rescue and evacuation operations.
<b>4-</b> Manage incident operations and terminate plan,
<b>5 – Provide Medical Aid</b>
<b>6 – Give alert signal in liaison with CEO.</b>
<b>7 – Give input to Crisis management Group with kind of external help required</b>

**DEPT. SPECIFIC BASIC FUNCTIONS**

<b>01</b>	Disaster management officer succession planning if designated officer is not available.
<b>02</b>	It shall be the responsibility of each department to convey the information regarding the disaster as received from watch room/signal station to the designated officers.
<b>03</b>	Initial firefighting by personnel on spot with appropriate available equipment. All personnel to be conversant with basic firefighting.
<b>04</b>	<b><u>Department Crisis Planning</u></b> <ul style="list-style-type: none"> <li>• Action plan for safeguarding its own tools and plants.</li> <li>• Integrating with Action Team to combat crisis.</li> <li>• Details for devolution of power for taking actions.</li> <li>• Sequence of actions for all personnel earmarked for duties in an emergency situation.</li> <li>• Nominating an officer and establishing system for informing</li> <li>• Crises whenever it arises irrespective of hours and holidays.</li> <li>• Prepare list of important files to be saved from destruction and</li> <li>• Nominating emergency Officer for this task.</li> <li>• To be conversant with use of firefighting appliances available and initial firefighting.</li> </ul>

**INCIDENT SCENARIOS**

<b>INCIDENT/REQUIREMENT SCENARIOS</b>	<b>LEVEL I – ACTION BY</b>	<b>LEVEL II &amp; III – ACTION BY</b>
Vessel –Grounding- Shifting-Evacuation	CEO	CMG + Salvage efforts + Navy + Coast Guard + Ship Agent
Casualties	CMO	Port + District + State
Fire & Explosion on Vessel or Terminal	Safety Head/ HM	Safety Head+ District (Fire Station) + CMG
Fire & Explosion at Shed	Safety Head/ HM	Safety Head+ District (Fire Station) + CMG
Oil Spill	CEO / COO/ HM / Head Env	HM + CMG + Coast Guard + Ship Agent
Toxic Gas leakage + Chemical spillage	CEO / HM / Safety / Env.	CMG + District / State + Ships Agent
Cyclone, tsunami, flood etc	CEO / Security/ Admin. / CSR	National disaster Management group + CMG + District + state
Terrorist Attack + Hostage Situation	Head Security	CMG + District + State

**CRISIS MANAGEMENT GROUP - RESPONSIBILITIES**

Position	Port Position	Alternative	TEL No.
<b>Team Leader</b>	<b>CEO</b>	<b>COO</b>	
<ul style="list-style-type: none"> <li>• Monitors Disaster Management Action Plan</li> <li>• Ensure state of emergency preparedness is maintained all times.</li> <li>• Authorises release of required funds.</li> <li>• Leads Crisis Management group to direct operations from the emergency control center at Level 2 &amp; 3.</li> <li>• Confirms level of crisis,</li> <li>• Monitors the shutting down, evacuation and other operations as necessary.</li> <li>• Activates the off-site emergency plan if the disaster is spreading to/from outside Port boundary in consultation with CEO, FC, Head (Admin), Head Safety and Head Security.</li> <li>• Approves information to the media.</li> <li>• Liaises with the Secretary, Jt.Secy (Ports) of the MOS (Ministry of shipping), Chief Secretary and other concern statutory authorities.</li> <li>• Confirms the termination of the emergency.</li> <li>• <b>Leads</b> the Crisis Management Group for early restoration of facilities and port activities.</li> <li>• Provides timely required status reports to the State Authorities.</li> <li>• If emergency affects surrounding population, evacuation of persons will be affected in-consultation with Municipal Authority of Bhadrak.</li> <li>• It is perceived that not all personnel will be evacuated, at any one time. Thus persons may be evacuated to other part of the port areas.</li> <li>• However, if whole Port is affected, evacuation will have to be done in consultation with the State Government and other mutual-aid agencies.</li> </ul>			

Group Position	Port Position	Alternative	TEL No.
<b>Welfare &amp; Media Coordinator</b>	<b>HOD (Cor. Affairs)</b>	<b>HOS (Media)</b>	
<ul style="list-style-type: none"> <li>• Prepare duty roster for manning of Crisis Management</li> <li>• Center by officers of the Administration, Finance &amp; Accounts and Materials Management.</li> <li>• Mobilises and monitors vehicles.</li> <li>• Arranges food and water to the personnel on roster duty</li> <li>• Liaises with MOS and communicates inputs from the Chairman.</li> <li>• Liaises with media as spokesman under guidelines of the Chairman.</li> <li>• Co-ordinates and keep in constant touch with the local and District Administration to render assistance.</li> <li>• Arrange for evacuation from township and port areas.</li> <li>• Maintains list of missing persons.</li> </ul>			

Group Position	Port Position	Alternative	Tel. No.
<b>Head Finance</b>	<b>FC</b>	<b>HOS (Finance)</b>	
<ul style="list-style-type: none"> <li>• Maintains cash / funds for disbursement to all the dept.</li> <li>• Disburses cash / funds to different departments</li> <li>• Provides Disbursement Statement for processing claims.</li> <li>• Depute officer to each dept to assess the requirement and needs of affected dept.</li> <li>• Assist in procurement and process purchasing / leasing of equipment's.</li> <li>• Hiring of specialist services, food, shelter and transport arrangements, as the situation demands.</li> <li>• Depute officer to documents all events, damages and claims.</li> </ul>			

Group Position	Port Position	Alternative	TEL no.
<b>Works Main Controller</b>	<b>CEO</b>	<b>COO</b>	
<ul style="list-style-type: none"> <li>• Ensures that the applicable implementation procedures are reviewed and revised annually.</li> <li>• Assists CMG to Direct operations from the emergency control center.</li> <li>• Monitors and tracks cyclone originating in Bay of Bengal.</li> <li>• Ensures stoppage of shipment operation &amp; evacuation of vessel during disaster.</li> <li>• Monitors &amp; directs site incident controller from control room.</li> <li>• Monitors on site personal protection, safety.</li> <li>• Monitors the search &amp; rescue operation.</li> <li>• Coordinates, organizes and obtains additional resources for operation.</li> <li>• Liaising with operating staff of Fire, Police, Coast Guard, Navy, etc.</li> <li>• Advises Central Disaster Group for the termination of the emergency situation.</li> <li>• Assist in assessing damages together with the CE, EE, ME &amp; HM.</li> <li>• Assists in the supervision &amp; reconstruction of affected areas post disaster.</li> <li>• Preserves evidence and assists Secretary in the submission of logs for the claim process.</li> <li>• <b>CONTROL OF SHIPPING: PORT CEO EMPOWERED FOR MOVEMENT OF SHIP during emergency.</b></li> <li>• <b>Eviction of vessel during emergency and route to be followed.</b></li> <li>• Declaring the Sl. No. of ship to be moved out during emergency.</li> </ul>			

Group Position	Port Position	Alternative	TEL No.
<b>Marine Department</b>	<b>Harbour Master</b>	<b>Sr. Pilot</b>	
<ul style="list-style-type: none"> <li>• Ensures evacuation of all dock workers and private labour, visitors, shippers, consignees from the port area.</li> <li>• Prepares vessels to vacate from berth to open sea.</li> <li>• Arranges to protect cargo in port custody from damage by shifting.</li> <li>• Arranges to segregate dangerous cargo in sheds during fire.</li> <li>• Submits consolidated list of dangerous goods in port including tankers in port and tank farms in port area.</li> <li>• Ensures his dept implements the disaster response plan and assists in segregating and shifting cargo and coordinating with the Fire Fighting Authorities.</li> <li>• Informs all cargo interests, Port Agents, stevedores regarding restoration of the port operation.</li> <li>• On alarm, ceasing all loading, unloading of cargoes, discharging and bunkering operations will cease.</li> <li>• Disconnect all hoses and vessels are prepared to proceed for anchorage.</li> <li>• Operations will resume after specific approval of CEO.</li> <li>• Hazardous cargo and explosives are to be shipped out immediately.</li> <li>• Mobilization of manpower and cargo handling equipment's from Port, Stevedores and C &amp; F agents to segregate unaffected cargo and make arrangements to protect such cargo.</li> </ul>			



Group Position	Port Position	Alternative	TEL. No.
Engineering Dept.	Head - ES	HOS - ES	
<ul style="list-style-type: none"> <li>• Mobilizes on-site action group to ensure proper functioning of the creek/culverts/Roads/ drainage system/Water supply system.</li> <li>• Ensures proper manning of the pump houses during the disaster.</li> <li>• Ensures proper functioning of the drinking water supply to the relief/ cyclone shelter.</li> <li>• Assists in recovery and port restoration activities.</li> <li>• Strengthening of shoreline, buildings and other civil works, including housing colonies.</li> <li>• Co-ordinate evacuation of Port areas with the Mutual-aid agencies.</li> <li>• Mobilise diving personnel and equipment.</li> <li>• Mobilise collect and distribute material to control damage.</li> </ul>			

Position	Port Position	Alternative	Tel. No.
Logistics Coordinator	Head Commercial	HOS - Commercial	
<ul style="list-style-type: none"> <li>• Arranges purchase of stores and supplies.</li> <li>• During cyclonic season sufficient stock of stores like GI corrugated sheets, J.Hooks, screw hinges, gunny bags, tarpaulins, ropes and wires for Port Crafts, diesel oil, kerosene oil, hurricane lantern, petromax lamps, torch lights with batteries and bulbs, electrical items etc. are kept in stock.</li> <li>• All the materials which are likely to get damaged with rain are protected by a tarpaulin cover and raised above ground level.</li> <li>• One Stores Supdt., one Store Keeper and the other minimum staff are required to issue materials including</li> <li>• POL are kept during emergency.</li> <li>• Informs CFO the approximate funds required.</li> <li>• Replenish stock if possible.</li> </ul>			

Group Position	Port Position	Alternative	TEL No.
<b>E&amp;M Department</b>	<b>Head – MHS</b>	<b>HOS-Electrical</b>	
<ul style="list-style-type: none"> <li>• Mobilises field groups for On Site Action</li> <li>• Monitors implementation of plans for providing continuity of emergency supplies and services i.e. electric power, emergency lighting, pump, bulk material handling equipment etc.</li> <li>• Coordinates with Materials Manager to procure essential materials</li> <li>• Arranges for the fabrication of any specialized equipments required for the emergency</li> <li>• Ensure secure of loader, conveyors, mobile equipment, bulk material handling equipment, locomotives, cargo handling Equipments etc.</li> <li>• Monitors the appropriate procedures to isolate damaged units without introducing new hazards and providing resources both in terms of personnel and equipment to accomplish it.</li> <li>• Activates the necessary utilities during emergency, i.e. activating back up emergency generators for general lighting purpose, pumps, welding services etc.</li> <li>• Monitors the rendering of assistance for rescue of trapped personnel by cutting structures, wires etc</li> <li>• Ensures the dept. group remain alert on duty for any electrical isolation of equipment during an emergency.</li> <li>• Assess damages and provide technical assistance to determine the operability of damaged units.</li> </ul>			

CRISIS MANAGEMENT GROUP RESPONSIBILITIES			TEL. No.
Position	Port Position	Alternative	
Security Coordinator	Head Security	HOS Security	
<ul style="list-style-type: none"> <li>• Traffic control and its regulation in port area.</li> <li>• Cordoning off the affected area.</li> <li>• Assist the affected Dept. in fighting and managing the disaster.</li> <li>• Clear all internal roads within port area for smooth traffic.</li> <li>• Keep extra watch and intensify patrolling over stores, substations, berths, transit sheds, warehouses, administrative building, loco sheds.</li> <li>• Controls the entry of unauthorized persons and vehicles-disperses crowd-cordons off restricted areas- prevent looting.</li> <li>• Permits the entry of authorized personnel and outside agencies for rescues operations without delay.</li> <li>• Allows the entry of emergency vehicles such as ambulances without hindrances.</li> <li>• Ensures that the people are as per the head count available with the assembly point section of that area to arrange for orderly evacuation.</li> <li>• Monitors that Dy HEAD SECURITY completes a reconnaissance of the evacuated area, to enable declaration of the same as evacuated and report to the CMG. Assist in evacuating casualty.</li> <li>• Participates in recovery and re-entry activity.</li> <li>• Inform PHO &amp; other team Leaders about the fire and nature of casualty.</li> <li>• Mobilising manpower and keep them at stand by.</li> <li>• Mobilisation of oil spill containment team.</li> <li>• Liaison and assist with Police / Navy / Coast Guard</li> </ul>			

CRISIS MANAGEMENT GROUP RESPONSIBILITIES			TEL. No
Position	Port Position	Alternative	
<b>Safety &amp; Fire Coordinator</b>	<b>HOD – Safety &amp; Fire</b>	<b>HOS – Safety &amp;</b>	
<ul style="list-style-type: none"> <li>Alert Fire Team about the emergency and keep the team ready with firefighting appliances.</li> <li>Deploy firefighting team for fighting fire and rescue from fire zone.</li> <li>Co-ordinate with Site Incident Controller and assess the type of Fire and inherent hazards associate with the Fire.</li> <li>Lead the fire team for fire Fighting</li> <li>Mobilise the Fire Crew from Fire Barrack if necessary.</li> <li>Seek help, if required, from Mutual-aid partner / District Fire team for fire-fighting.</li> <li>Cordon off the area and preserve the evidence for incident investigation, if necessary</li> <li>Seek help from Security Dept. for requirement of extra manpower for firefighting.</li> </ul>			

CRISIS MANAGEMENT GROUP RESPONSIBILITIES			TEL. No
Position	Port Position	Alternative	
<b>Medical Aid Coordinator</b>	<b>H O S - H R</b>	<b>CMO</b>	
<ul style="list-style-type: none"> <li>Set up casualty collection centre and arrange first-aid posts</li> <li>Arrange for adequate medicine, antidotes, oxygen, stretchers etc</li> <li>Advise CMG on industrial hygiene and make sure that the personnel on duty are not exposed to unacceptable levels of toxic chemicals.</li> <li>Maintains a list of blood groups of each employee with special reference to rare blood groups.</li> <li>Arranges additional medicine and equipment as required.</li> <li>Liaises with selected NGO's under instructions of the CEO.</li> <li>Arrange Equipped Ambulance in ready state.</li> <li>Ensures that the casualty section of Port hospital has specialists.</li> <li>Arranges for extra beds and in emergency contact with the state Govt. Hospital for extra medical supplies.</li> <li>Make arrangements to treat casualty at incident sites and transporting for further treatment.</li> <li>Depute first Doctor to onsite team who acts as liaison officer for all medical services.</li> </ul>			

**DISASTER MANAGEMENT ON SITE ACTION GROUP-RESPONSIBILITIES**

<b>Group Position</b>	<b>Port Position</b>	<b>Alternative</b>	<b>TEL. No.</b>
<b>Incident controller- Marine</b>	<b>Harbour Master</b>	<b>Senior Pilot</b>	
<b>Directs and co-ordinates all field operations at the scene of the accident</b>			
<ul style="list-style-type: none"> <li>• Monitors early warning for cyclones and rescue operations</li> <li>• Assesses the level of incident -nature-location- severity- casualties and resource requirement</li> <li>• Classifies the incident - Advises Pilot at Signal Station to convey to CEO about Crisis Severity status and Emergency level, resource requirements etc.</li> <li>• Activates elements of the terminal emergency plan / site response actions.</li> <li>• Coordinates all functional heads in field operations group to take action.</li> <li>• Arranges tugs, mooring boats and pilot(s) for un-berthing vessel(s)</li> <li>• Arranges for additional resources and periodic tactical and logistical briefings with (CEO) of CMG (Central Management Group).</li> <li>• Liaises with Coast Guard, Navy and Head Security.</li> <li>• Co-ordinate with the search and rescue operations of Head Security.</li> <li>• Manages incident operations to mitigate for re-Entry and restoration including channel hydrography survey and navigation aids survey in liaison.</li> <li>• Arranges survey of damaged marine flotilla for necessary repairs</li> <li>• Makes claims if the incident is due to the vessel from owners, P&amp; I Club or agents.</li> </ul>			
<p><b>Coordinates</b> – in combating operation of firefighting and toxic gas leakage with the HEAD Safety &amp; Fire, if Oil spillage with HEAD SECURITY &amp; Coast Guards, if Vessel accidents with CEO, Navy &amp; Coast Guard, if Natural calamities like cyclone and floods, tsunami with the CE &amp; ME, for Cargo operation shutdown with the Traffic Manager, for Search&amp; rescue with HEAD SECURITY, for First aid and hospitalization with Dy CMO.</p>			

<b>Group Position</b>	<b>Port Position</b>	<b>Alternative</b>	<b>TEL NO.</b>
<b>Communications Officer</b>	<b>Senior Pilot</b>		
<ul style="list-style-type: none"> <li>• Maintains 24 hour vigilance towards the channel /anchorage &amp; port</li> <li>• On receipt of instructions from the Site Incident controller, informs the fire brigade/HEAD SECURITY / CEO</li> <li>• Refrains from exchanging any information with unauthorized persons unless authorized to do so by the CEO.</li> <li>• Maintains contact with vessels on VHF.</li> </ul>			

<b>Group Position</b>	<b>Port Position</b>	<b>Alternative</b>	<b>TEL. No.</b>
<b>Cargo Storage, Sheds &amp; Labour coordinator</b>	<b>Senior Pilot</b>		
<ul style="list-style-type: none"> <li>• Co-ordinate with HM in de-berthing vessel to vacate the berth</li> <li>• Arranges to segregate and protect cargo in sheds</li> <li>• Submits consolidated list of dangerous goods in port including tankers in port during fire.</li> <li>• Coordinates with shipowners/agents/C &amp; F agents/stevedores and with labour Officer to arrange and ensure evacuation.</li> <li>• In case of Fire at Jetty or BMH area - liaises with Head Safety &amp; Fire to extinguish fire and start search and Rescue Operations in marine zone.</li> </ul>			

<b>Group Position</b>	<b>Port Position</b>	<b>Alternative</b>	<b>TEL. No.</b>
<b>First Aid</b>	<b>Medical Officer</b>	<b>Sr. Pharmacist</b>	
<ul style="list-style-type: none"> <li>• Maintains a list of blood groups of each employee with special reference to rare blood groups - Liaises with CMO as necessary</li> <li>• Sets up a casualty collection centre , Arranges first aid posts at assembly points</li> <li>• Arranges for adequate medicine, antidotes, oxygen, stretchers etc</li> <li>• Contacts and cooperates with local hospitals and ensure that the most likely injuries can be adequately treated at these facilities e.g. burns</li> <li>• Advises Incident Action Group not to be exposed to unacceptable levels of toxic exposure</li> <li>• Submits reports-indents to replenish medicines ,resources used</li> </ul>			

Position	Port Position	Alternative	TEL
SAR / Sec / Pol	HOS Security		
<ul style="list-style-type: none"> <li>• Maintains patrols and ensure unsafe practices are eliminated</li> <li>• Liaises with Site Incident controller (HM) and is responsible for keeping the Fire Dept in a state of alertness on a 24 hour basis.</li> <li>• Sounds action alarm at the Fire station. Keeps CMG, CEO, Head Security and etc. informed the level of crisis &amp; leads team directly to incident site</li> <li>• Assists in the evacuation of workers to the assembly points in liaison with the team Informs Site Incident Controller</li> <li>• Seek the help if external fire tender/firefighting equipment /materials is required</li> <li>• Arranges safety equipment e.g. fire suits, protective gloves and goggles, breathing apparatus as required.</li> <li>• Controls the entry of unauthorized persons and vehicles</li> <li>• Permits the entry of authorized personnel and outside agencies for rescues operations without delay.</li> <li>• Allows the entry of emergency vehicles such as ambulances without hindrances</li> <li>• Ensures that all people are aware of the assembly points, where the transportation vehicles are available.</li> <li>• Ensures that the people are as per the head count available with the assembly point section of that area</li> <li>• Liaises with the Addl. TM for transport arrangements of the people at assemble point</li> <li>• Carries out reconnaissance of evacuated area before declaring the same as evacuated and report to HEAD SECURITY.</li> <li>• Submit report to HEAD SECURITY, CEO &amp; COO.</li> <li>• Deploy craft- and mobilise resources to confine and clean up spill.</li> </ul>			

Position	Port Position	Alternative	TEL. No.
<b>E&amp;M DEPT.</b>	<b>HOD – MHS</b>	<b>HOS – Electrical</b>	
<ul style="list-style-type: none"> <li>• Suggests optimal strategies for conducting emergency isolation of damaged equipment, the emergency transfer of materials etc.</li> <li>• Provides the necessary utilities during the emergency like back up emergency generators for general lighting purposes, pumps, welding services.</li> <li>• Renders assistance for extricating trapped personnel by cutting structures, wires etc.</li> <li>• Recommends the appropriate procedures to isolate damaged units without introducing new hazards and provides resources both in terms of personnel and equipment to accomplish this.</li> <li>• Assess damages and provide technical assistance to determine the operability of damaged units.</li> <li>• Assists in the re- entry and restoration process of the port operation.</li> <li>• Assist in the accident investigation.</li> <li>• Take charge of all communication systems of Port fixed &amp; portable both.</li> <li>• Ensure availability of sufficient numbers of electronic communication equipments to the Port Control Station, Base Control and anywhere else as necessary.</li> <li>• Ensure Port Exchange operator to keep constant watch and relay messages as required by CMG, On site, Signal Station &amp; Security Centre.</li> <li>• Availability of portable lighting arrangement to the accident site.</li> <li>• Adequate workshop personnel are available to keep all vehicles and floating crafts, required to tackle an emergency, in good condition during the course of emergency.</li> <li>• Maintaining liaison with Electricity Board for emergency supply of power for running essential installations to meet emergency.</li> </ul>			



<b>Position</b>	<b>Port Position</b>	<b>Alternative</b>	<b>TEL. No.</b>
<b>Civil</b>	<b>HOS CE</b>		
<ul style="list-style-type: none"> <li>• During cyclones/floods arranges sand bags &amp; develop</li> <li>• methodologies to control hazardous spills.</li> <li>• Co-operate with on-site action group to conduct the clean</li> <li>• up work during and after the disaster.</li> <li>• Assist in the restoration and recovery activities.</li> </ul>			

<b>Position</b>	<b>Port Position</b>	<b>Alternative</b>	<b>TEL. No.</b>
<b>Admin</b>	<b>HOS-Admin.</b>	<b>Travel In-charge</b>	
<ul style="list-style-type: none"> <li>• Coordinate evacuation with local Transport and HEAD SECURITY in town ship areas.</li> <li>• Liaison arrangements for shelters and food for evacuated persons.</li> <li>• Collecting details of evacuated people. This will be necessary to settle claims, if any, at a later date.</li> <li>• Consult Legal Advisor and obtain their advice for legalizing all the port's actions.</li> <li>• Mobilise vehicles for onsite Action Team and support services.</li> <li>• Prepare lists of Port Personnel affected and involved in an Incident,.</li> <li>• Food arrangement and rest for personnel engaged in combating Emergency.</li> <li>• Document all events and actions for future reference</li> </ul>			

## **COMMUNICATION SYSTEMS**

Vulnerability is partly a function of the degree of protection available to potential victims as a result of a disaster. Improved warning reduces vulnerability. Warning' incorporates the communication of risk in times of impending emergencies, with the purpose of obtaining public protective actions through the implementation of the Disaster Management Plan.

### **Communication Network Elements within the Port on Site**

Internal Fire Service	Special fire alarm and normal communication system-VHF-TELEPHONE-EPABX-WALKIE TALKIE- MOBILE
Forward control	UHF/VHF Transceivers-normal communication systems in reserve
Personal and internal Medical services	Normal communication services
Firefighting craft & Rescue launches	UHF/VHF Radio telephones, Via port authorities as reserve
Ships at Berth	Normal UHF/VHF Radio telephone link used in cargo operations.
Civil authorities Including fire services, Police and medical services	Direct telephone link with failure alarm, UHF/VHF radio telephone or public telephone system. Cascade system to be used i.e. through dept heads to subordinates. Enable keep lines clear
Harbour authorities, Pilots, tugs and harbour craft	UHF/VHF Radio telephone or public telephone
District Collector or State Secretary	UHF/VHF Radio telephone, public telephone
Jt Secretary-MOST New Delhi	Public telephone-hot line for emergency level 2 & 3

## **COMMUNICATION EQUIPMENT**

<b>MANAGEMENT</b>	<b>MOBILE VHF</b>
CEO, CEO, Harbour Master, Traffic Manager, HEAD SECURITY / Dy. HEAD SECURITY, Port Entry Gates	Motorola /
Signal Station -	VHF Motorola

**EMERGENCY COMMUNICATIONS, IN Case of Emergency, (ICE NO.)**

S. N.	Points	Tel. No.	VHF Channel
02	Signal Station		
03	Security Command Centre		
04	Fire Control Station		
05	Main Gate		

**ALERT ALARM – Prolong Blast for 05 Sec with gap of 05 Sec for 01 min.  
Termination of emergency – Continuous sounding for 2 min.**

**COMMUNICATION-CHANNELS STRUCTURE****EMERGENCY FACILITIES****EMERGENCY CONTROL CENTRE AT SIGNAL STATION**

<b>NOS</b>	<b>EQUIPMENT</b>	<b>REMARKS</b>
	VHF SETS	WITH Battery back up
	TELEPHONES DIRECT PLUS EPABX	Power supply not required
	WALKIE TALKIE SETS & MOBILES	With spare batteries
	FLIP CHART WITH FELT PENS	
	IDENTIFYING JACKETS AND HELMETS AND ARM BANDS	
	EMERGENCY LIGHTS AND TORCHES	
	PORTABLE PA/LOUD HAILER SETS	
	EMERGENCY GENERATOR	
	DRY FOOD & WATER FOR 72 HOURS	
	Disaster Management Plan, Oil Spill Disaster	

**CRISIS MANAGEMENT CONTROL ROOM-**

<b>EQUIPMENT</b>	<b>NO.</b>
Emergency, lights and torches	
TV & Radio	
Computer with Internet connection and UPS	
Scanner/Fax and Printer	
Telephone hotline-State Govt with sound proof cubicle	
Telephone hotline-Ministry of Shipping with sound proof cubicle	
Telephone-one for incoming ;second for outgoing calls	
Over head slide projector	
White board and coloured marker pens	
Tape recorders	
SBA System-Simultaneous broadcasting and selective broadcasting-optional	
Walkie talkies/mobile telephone	
VHF sets-marine	
VHF Sets-Non Marine-Police	
Binoculars	
Computer software for spill scenarios & Chemical Hazards	
Disaster Management Plan, Oil spill disaster plan	
Table-seating	
Tables-for equipment	
Chairs	
Charts (Harbour, Port layout)	
Stationary- Flip charts	
Emergency generator	
Dry food & water for 72 hours	

**DPCL FIRE FIGHTING RESOURCES**

<b>Resources</b>	<b>Qty.</b>
Foam & Water Tender	02
Fire Hydrants & Hoses	
Fire Water Pumps (locations –Firewater pump house)	
• Motor Driven Pump	02
• Diesel Engine Driven stand by pump	01
• Motor driven iockey pump	02
Photo electric smoke & Heat detector	
Manual Call point	
Dry Chemical powder fire extinguisher	
Carbon Dioxide Fire Extinguisher	
Water driven turbo NI-203 ejector pump	
Sand Bucket	
Fire Proximity Suit	
Breathing Apparatus Sets	
Thermal Image camera	
Fire entry Suits	
Emergency Life Supporting Apparatus	
Motorola –Base Station &Mobile	
Mobile VHF Walkie-Talkie sets	
Safety harness	
Fire Blankets	

**Fire Safety Equipment**

01	Battery Operated cutter	
02	Door Breaker	
03	High Visibility Suit	
04	Bolt Cutter	
05	Life buoy	
06	Safety Helmet	
07	Life Jacket	
08	Safety Torch	
09	Portable lamp	
10	Flood Light	
11	Fireman Axe	
12	Spade	
13	Sear Torch	
14	Pick Axe	

**EVACUATION**

- **Port CEO to 53 authorize evacuation of personnel.**
- **Evacuation on specific instruction from Port Control Room.**
- **Port security Officer will coordinate evacuation and Security guards and fire fighting personnel will participate in carrying out evacuation.**

**AVERAGE NUMBER OF LABOUR, SUPERVISORS WITHIN PORT/ SHIFT**

SI No	Berth Details	Mechanical	Manual	Number of labour employed per
1	Loading Berth	01	02	
2	Unloading Berth	02	02	
	<b>Total</b>			
3	BMH			
4	Power Station			
5	Wagon Tippler			
6	Water Treatment Plant			
7	Tugs & Boat crew			
7	Visitors			
	<b>Grand Total</b>			

Does not include Security Staff and Port Personnel -  
Township Population -

**All Evacuation through Main Gate**

**PIPE LINES – Fuel Station**

**LOCATION OF CANTEENS**

**Evacuation / Search & Rescue Operation coordinated by – Port Security Officer**

**EVACUATION ACTION-COORDINATION AND SPECIFIC FOLLOW UP**

DEPT & ACTION BY	SPECIFIC ACTION
Administration	<b>Overall Supervision</b> of Evacuation at township & Reports to CEO
HEAD SECURITY	<b>Evacuation of work force</b> at harbour area.
HEAD SECURITY	<b>Announcement</b> of Evacuation through PA on mobile units
Administration	<b>Arrange Relief Centres</b> ready to accommodate evacuated
Administration	<b>Procure Transport vehicles</b> to transport persons at relief centres
Civil Eng	<b>Provide adequate Drinking water</b> at temporary evacuation
Medical	<b>Provide Medicine and First Aid</b> at Assembly points & relief
E&M Dept	<b>Provide adequate lighting</b> at temporary evacuation shelters
Administration- PRO	<b>Provide food</b> at temporary evacuation shelters
HEAD SECURITY	<b>Confirmation</b> that evacuation operations are complete
CEO	<b>Status Report</b> to CEO every hour

**EVACUATION ROUTES**

	<b>INCIDENT</b>	<b>EVACUATION ROUTES ( APPENDIX PORT</b>
1	<b>NATURAL CALAMITIE S</b>	Assemble near the main Gate to proceed to the relief centres or to other constructed shelters <b>(Coordinated by HEAD SECURITY)</b>
2	<b>TOXIC GAS RELEASE</b>	The route decision will be determined depending upon the wind direction at the time of the incident .It will be in the <b>up wind direction of the outflow source</b>
3	<b>FIRE AT BMH</b>	Assemble at Main Gate to proceed out as directed <b>(Coordinated by HEAD SECURITY)</b>
4	<b>FIRE AT BERTH 1 &amp; 2</b>	Assemble at Power Sub station and proceed out through
5	<b>Fire at Power</b>	Assemble at Main Gate to proceed out as directed <b>(Coordinated by HEAD SECURITY)</b>

**RELIEF CENTRES**

<b>S N</b>	<b>Name of Institution</b>	<b>Area</b>
1	Guest House	
2	Fakir Mohan ITI	
3	Scot Wilson GH	
4.	All cyclone shelters	

**FOOD PACKETS SUPPLIERS**

<b>S.N O</b>	<b>NAME OF THE AGENCY/ HOTELS</b>	<b>TELEPHONE NO.</b>

### Transportation-Vehicle Pool

As soon as this Action Plan comes into force, the vehicle pool stands formed. The pool shall be controlled by DGM Administration under the overall supervision CEO. The vehicles will be hired from the following transport pool: Apart from the above M & E Dept. shall hire vehicles from the private vehicles contractors for emergency work. The list of private vehicle contractors is given below:

<b>S N</b>	<b>Travel Agency</b>	<b>Vehicle Type &amp; Qty</b>	<b>Tel Nos</b>	<b>Mobile Nos</b>
1				
2				
3				
4				

All vehicles whether it is of DPCL or hired should be parked in the location as decided by Admin Dept. from where it can be taken for immediate use as soon as the people move into action.

### Contact with Railways

CE M&E to ensures for the smooth movement of workers/employees for which he may get in touch with the Station Master Bhadrak and apprise him about the situation so that the movement of staff moves efficiently.

### FIRST AID POSTS

<b>POST NUMBER</b>	<b>LOCATION</b>	<b>TEL NUMBERS</b>
First Aid Post No 1		
First Aid Post No.2		
First Aid Post No 3		
First Aid Post No 4		



## **FIRE & EXPLOSION RESPONSE PLAN**

The DPCL Fire Fighting Service is operated under HEAD SECURITY & is assisted by firefighting teams which operates on a 8 hour shift round the clock. The location of the Main Fire Station is at Main Gate. **During discharge of fuel 01 Fire tender always to be stand by.**

### **METHODS OF DEALING WITH DIFFERENT TYPES OF FIRE & LEAKAGES**

Fires from minor oil spillage on deck or jetty	Use dry chemical or foam extinguishers or water fog or water spray
Fire from large spillage of oil or burst hose on deck or jetty	Use large dry chemical appliance and follow up with foam or water fog/spray. Cool surrounding area/risks with water spray
Fires from spillage of oil on surrounding waters	Emulsification of oil with water jets or apply foam coverage as appropriate
Ammonia Gas	Use dry chemical, carbon dioxide, water spray or alcohol- resistant foam. from upwind position
Phosphoric/Sulphuric Acid	Dry powder, carbon dioxide (CO <sub>2</sub> ), water fog or spray
-Electrical Fires -Fire in buildings-canteen	Switch off power-use CO <sub>2</sub> or dry chemical extinguishers
Fire in office involving	Use dry powder fire extinguishers-water spray, Use Breathing apparatus.
LPG AND LNG Fires	Should not be extinguished until source of leakage is under control. Dry chemical is the most effective. Cover affected area with water spray to reduce radiant heat.
Fire in cargo tanks	Use foam or steam smothering.

**DEPARTMENTAL ACTION - FIRE AT THE JETTY**

<b>DEPT</b>	<b>ACTION</b>
<b>Harbour Master &amp; Vessel</b>	<ol style="list-style-type: none"> <li>1. Signal Station informs Fire Station and brief the incident with type of Fire.</li> <li>2. Signal station informs CEO, Harbour Master, Head Safety &amp; Fire and HEAD SECURITY on VHF 16/14/12 / Land line / Mobile.</li> <li>3. Master of the vessel ceases all cargo or bunker operation close the manifold valves</li> <li>4. Disconnect hoses and consults with CEO &amp; Harbour Master for un berthing &amp; also ensures the immediate action of the vessels Fire-fighting squad.</li> <li>5. If necessary Master may request for additional resources and / or evacuation of injured.</li> <li>6. <b>SIGNAL STATION</b> informs CEO, Dy. CEO, Harbour Master, HEAD SECURITY &amp; Fire station of the incident.</li> <li>7. <b>CEO</b> assesses works together with Harbour Master, HEAD SECURITY and Master of vessel to ascertain the status and crisis level.</li> <li>8. HM Informs Crisis Management Group the status and Crisis level.</li> <li>9. Pilots on Standby for shifting out vessel direct firefighting tugs. Keeps mooring crew and launch standby to unberth vessel. <b>DC</b> maintains close liaison with HM and monitors progress and strategy of containment and extinguishing.</li> <li>10. Reconfirms stoppage of cargo operations.</li> </ol>
<b>HEAD SECURITY</b>	<ol style="list-style-type: none"> <li>1. Ensures that fire tenders are ready at the jetty and takes over Action group.</li> <li>2. Ensures area cordons off.</li> <li>3. Executes Search &amp; rescue with fire fighting team.</li> </ol>
<b>E&amp;M Dept.</b>	<ol style="list-style-type: none"> <li>1. Ensures isolation of the electric power on berth.</li> </ol>
<b>Medical</b>	<ol style="list-style-type: none"> <li>1. CMO keeps ambulance standby by at berth and provides. First Aid and burn treatment to the injured.</li> </ol>

**ADMINISTRATION BUILDING FIRE**

<b>DEPT</b>	<b>ACTION</b>
Administration	<ol style="list-style-type: none"> <li>1. First sight -Raises Alarm (break glass - Uses Fire extinguishers to extinguish fire).</li> <li>2. Head Admin supervises the action.</li> <li>3. Overall in charge of action group.</li> <li>4. Switch of Electric supply.</li> <li>5. Never throw water on electric box.</li> <li>6. Inform Fire station / HEAD SECURITY / Signal station / CEO.</li> <li>7. Evacuate people in orderly manner</li> <li>8. Sr. most section head shall be last to leave premise.</li> <li>9. Muster all people and confirm head count for any missing people</li> <li>10. On incident termination arrange alternative office space.</li> </ol>
HEAD SECURITY	<ol style="list-style-type: none"> <li>1. Deploy Fire Tender.</li> <li>2. Assist transfer of sensitive documents.</li> <li>3. Assist in evacuation / search &amp; rescue of personnel.</li> <li>4. Cordoning off area.</li> <li>5. Apprise CEO of the area.</li> </ol>
Civ Eng Dept	<ol style="list-style-type: none"> <li>2. Assess cost to rectify damage portion of building.</li> </ol>
E&M Dept.	<ol style="list-style-type: none"> <li>1. Ensures isolation of electric power to admin building.</li> </ol>
Medical	<ol style="list-style-type: none"> <li>1. Keeps ambulance standby.</li> <li>2. Provide First Aid to victim.</li> </ol>

**FIRE AT Bulk Material Handling Area.**

<b>DEPT</b>	<b>ACTION</b>
<b>HARBOUR MASTER</b>	<ol style="list-style-type: none"> <li>1. BMH In charge raises alarm by informing Port signal station &amp; Fire Station simultaneously uses Fire extinguishers to extinguish fire.</li> <li>2. Switch off power supply and all cargo operation ceases.</li> <li>3. Informs on-site action Group, CEO and HEAD SECURITY</li> <li>4. Shed I/c Mobilises all manpower in the area surrounding the site to bring the firefighting appliances in the area, to extinguish the fire.</li> <li>5. The senior most Traffic official on site will mobilize all the work force, labour and cargo handling appliances available in the area.</li> <li>6. TM ensures the removal of all the unaffected cargo from the shed to a safe place.</li> <li>7. TM ensures that the details of types of cargo and quantity of cargo in the shed should be kept ready and given to of Port Fire Service who comes first to the scene of the fire.</li> <li>8. TM shall ensure that the labour working inside the shed is assembled for a head count.</li> <li>. Keeps all tugs &amp; craft on standby.</li> <li>10. Recall Pilots for movement of vessels.</li> <li>11. Inform all vessels to be standby.</li> </ol>
<b>HEAD SECURITY</b>	<ol style="list-style-type: none"> <li>1. Arrives with fire tenders and resources and takes over Fire Fighting.</li> <li>2. Conducts search and rescue and evacuation of affected person.</li> <li>3. Cordon Off the affected area.</li> <li>4. Apprise CEO and resources required.</li> </ol>
<b>Civil Dept.</b>	<ol style="list-style-type: none"> <li>1. Survey &amp; assess the cost to rectify the damage portion of the Cargo storage shed.</li> </ol>
<b>E &amp; M Dept</b>	<ol style="list-style-type: none"> <li>2. Ensures isolation of the electric power to cargo storage shed.</li> </ol>
<b>Medical</b>	<ol style="list-style-type: none"> <li>3. Keeps ambulance standby by off Administration Building.</li> <li>4. Provides First Aid to the injured.</li> </ol>

**OIL OR CHEMICAL POLLUTION – As Per Oil Spill Contingency Plan**

<b>DEPT</b>	<b>ACTION</b>
Marine (HM)	<ol style="list-style-type: none"> <li>1. PSS to contact CEO and inform the incident</li> <li>1. HM advises HEAD SECURITY &amp; CEO the level of emergency</li> <li>2. Keeps tugs, pilot, mooring boats, tugs standby with oil spill equipment and chemical dispersant.</li> <li>3. CEO informs CEO, Fishery Harbour Division of the spillage in the port.</li> <li>4. HM informs the CEO about the status to Chairman and ensures that the penalty imposed if the incident is caused by the vessels negligence is in accordance with the Major Port Trust Act.</li> <li>5. Sends notice to Master holding vessel and owners liable for the incident indicating projected expenses.</li> <li>6. The Master of the Vessel will submit the oil Spill report to the Dy CEO signed and stamped with vessels official seal in the following format.</li> <li>7.</li> </ol> <p>Name of the Vessel &amp; IMO no</p> <ul style="list-style-type: none"> <li>• Name of the Master</li> <li>• Call Sign/Flag/Year Built/Class</li> <li>• Port of Registry</li> <li>• Owners Name, address fax/tel</li> <li>• Charterers Name, address fax/tel</li> <li>• Name of P&amp; I Club &amp; Local Corr</li> <li>• Copy of COFR &amp; oil record book</li> <li>• Date and Time of Spillage</li> <li>• Cause of Spillage</li> <li>• Location</li> <li>• Type and quantity spilled</li> <li>• Immediate action taken</li> <li>• Weather conditions</li> </ul>

**COLLISION : PORT FLOTILLA AND VESSELS CALLING AT DPCL  
PORT**

SHIPBOARD-PORT EMERGENCY PLAN	COLLISION	
Action to be taken	ACTION BY PORT	ACTION BY
1.Slow down and stop main engines 2.Sound Emergency Alarm: 3.Check for possibility of oil pollution		Master
1-Establish communication with other vessel and exchange information 2-Advise other vessels to keep clear-Hoist NUC Lights 3-Advise port for assistance 4-Advise agents of status requests surveyors-Class- P&I-Salvage association- 5-Secure evidence and maintain adequate records	Harbour Master - Along with on-site action group. - Inform CEO - Inform CEO - Inform IN + CG	
1-Inspects/assesses damaged area& in - case of oil leakage determine whether de-berthing of the vessels will increase oil spill rate. 2-Ascertain oil pollution-ascertain leak source 3-Harbourmaster and Master of vessel to inspect vessels 4-Sounds all bilge, ballast and fuel tanks 5-Transfer oil from leaking tanks 6-Effects damage control and temporary repairs to stop oil leakage if any with the assistance of port	Harbour Master with on-site action group  Inform CEO Inform Coast Guard + Salvage efforts	Vessel emergency action group team
1-Provides First Aid	CMO	
1-Attend engine room controls and services 2-Investigate engine room for damages and water ingress 3-Check steering gear 4-Reports status of the main engine and auxiliaries to		Vessel Engineering team.

**FIRE / EXPLOSION**

<b>SHIPBOARD EMERGENCY PLAN</b>	<b>FIRE / EXPLOSION OFF BERTH</b>	
Action to be considered	Port	Responsibility
<p><b>IMMEDIATE ACTION</b></p> <ul style="list-style-type: none"> <li>• Consider sounding Emergency Alarm:</li> <li>• Initiate vessel emergency response procedure:</li> <li>• Inform Port Signal Station about nature of explosion.</li> </ul>	Port Signal Station	Informs HEAD SECURITY, HM & CEO and vessels on jetty about incident
<p><b>INITIAL RESPONSE</b></p> <ul style="list-style-type: none"> <li>• Cease all cargo and / or bunkering operation:</li> <li>• Close manifold valves:</li> <li>• Fire squads to position deemed best for fighting the fire:</li> <li>• Inform terminal/loading master/bunkering personnel:</li> </ul>	HEAD SECURITY	<ul style="list-style-type: none"> <li>- Place fire tender next to ship</li> <li>- Cordon off jetty</li> <li>- Inform CEO and assess resources required</li> <li>- Oil spill team stand by</li> </ul>
<p><b>SECONDARY RESPONSE</b></p> <ul style="list-style-type: none"> <li>• Stop air intake into accommodation:</li> <li>• Consider to stop non-essential air intake to engine room:</li> <li>• Determine the extent of the damage, and decide what damage control measures can be taken:</li> <li>• Determine whether there are casualties:</li> <li>• Contain the fire and prevent it from spreading to other parts of the vessel:</li> <li>• Assess health hazards from smoke:</li> <li>• If possible, position the vessel to minimize the wind effect:</li> <li>• Start recovering of any casualties:</li> <li>• Notify authorities and outside organisation, as appropriate:</li> <li>• Evaluate evacuation of non-essential crew:</li> </ul>	HM	<ul style="list-style-type: none"> <li>- Keep Pilot &amp; tug ready</li> <li>- Stop all cargo operation</li> <li>- if required vacate ship from jetty.</li> </ul>

<p><b><i>FURTHER RESPONSE</i></b></p> <ul style="list-style-type: none"> <li>• Assess the possibility of pollution from leakage:</li> <li>• Fit scupper plugs if spillage on deck:</li> <li>• Check all tanks and compartments:</li> <li>• Alter trim if necessary:</li> <li>• Transfer bunker internally, if required:</li> <li>• Require assistance as deemed necessary:</li> <li>• Comply with reporting procedures:</li> <li>• If required, obtain permission from local authorities and/or the terminal to</li> </ul>	CMO	- Ambulance and first aid team standby on jetty.
--	-----	--



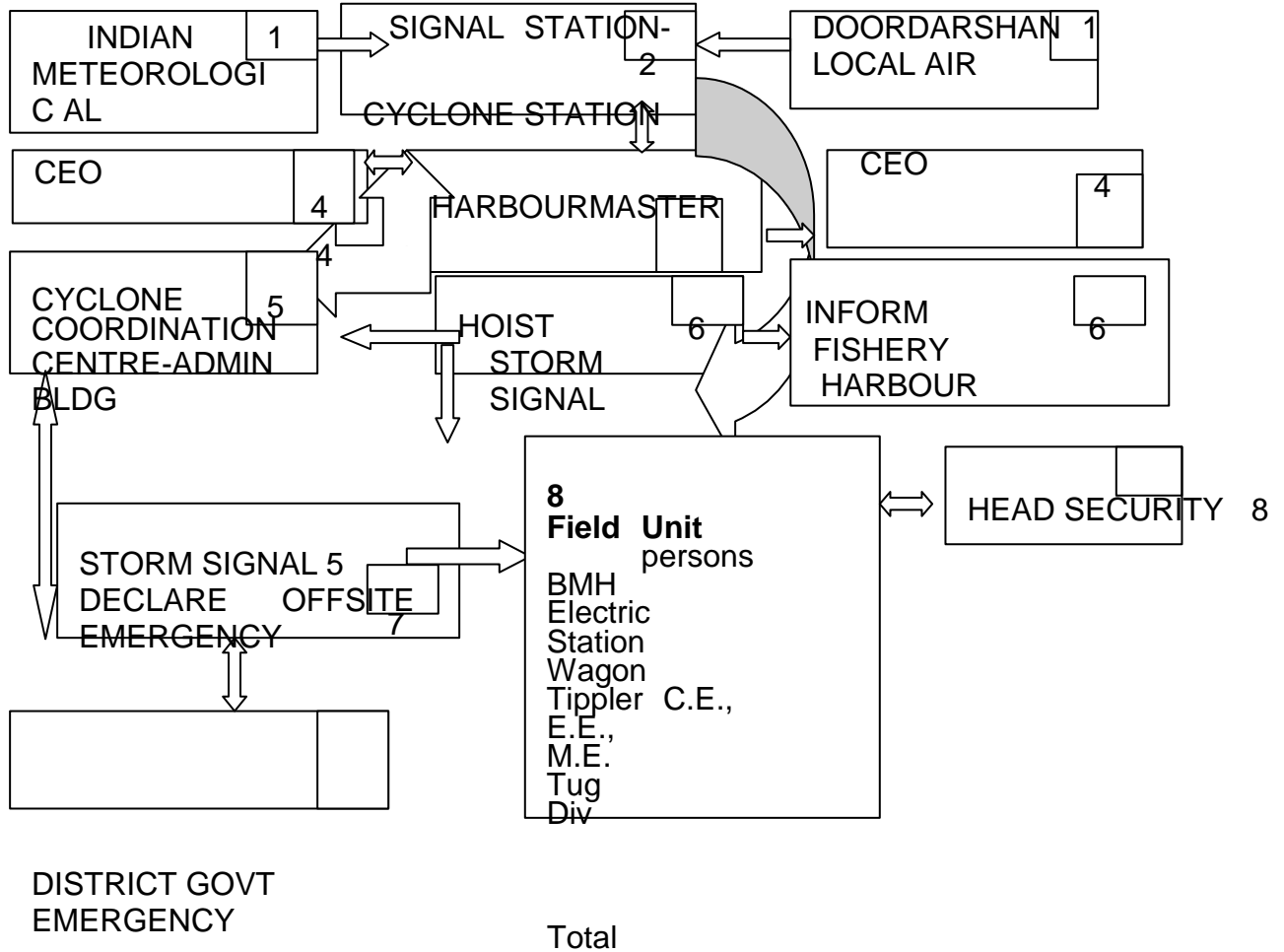
**VESSEL GROUNDING IN PORT- DETAILED ACTION BY PORT**

<b>ACTION BY MARINE</b>	<b>DETAILS OF SPECIFIC ACTION</b>
Master/Pilot	- Contacts Signal Station on VHF Ch 16 or Ch 14 and informs position of incident
Signal Station	- Informs CEO, HM & HEAD SECURITY - Stop all vessel movement. - CEO informs CEO and Crisis Management team who inform mutual aid agencies for assistance required. - All vessels arriving and departing Dhamra port will be informed of the incident
Harbour Master	- Activates the on-site action group and assesses the situation, tide, wind direction, & inform DC. - Through the Signal Station Advises all Pilots to report on duty, all tugs standby.
Sr. Pilot	- Organises available tugs, launches, and keeps crew stand by and awaits instructions of the CEO
Sr Hydrography Surveyor	- Proceeds by survey launch to vessel and obtains soundings around the vessel by the echo sounder and the
Master of grounded vessel	- Records soundings of all tanks and also records draft, arrange soundings by hand lead around the vessel. - Examines the soundings and draft around the vessel for transfer of bunkers, ballast or shift cargo to refloat vessel.
Master of vessel and harbour Master	- Commence preparations for towing operations 2 hours before high tide. - Vessel engines to be kept stand by to assist in the refloating operations. - Takes all anti oil pollution measures.
Port , Navy or Coast guard & Salvage efforts	- Hull leakages to be attended to by under water welding by the Navy/Coast Guard or other available diving firms.

**SINKING OF VESSEL IN PORT**

<b>ACTION BY PORT Marine</b>	<b>DETAILS OF SPECIFIC ACTION</b>	<b>ACTION BY</b>
Harbour Master	<b>Ensures vessel is cleared of the channel / turning basin or berths to suitable area for normal traffic.</b>	Activates the vessel action group
Signal Station	Informs HM, CEO & HEAD SECURITY of the	
CEO and Pilots	Proceeds to the area with Tugs and conducts Rescue operations.	Lower life boats
CEO	Appraise the CEO and members of Crisis Management group about the incident.	
HM / Navy / Coast Guard	HEAD SECURITY to initiates the rescue operation of the person on board.	

**CYCLONE ALARM AND RESPONSE**



**CLASSIFICATION OF TROPICAL DISTURBANCES OVER THE INDIAN SEAS**

Classification Of Tropical Disturbances	Speed kmph	Speed knots
Low	< 31 kmph	< 17 knots
Depression	31 – 51	17 – 27 Knots
Deep Depression	52 – 62	28 – 33 knots
Cyclone	63 – 87	34 – 47 knots
Severe Cyclone	88 – 117	48 – 63 knots
Very Severe Cyclone	118 – 221	64 – 111 knots
Super Cyclone	222 kmph & above	120 knots & above

**USEFUL WEB SITES FOR TRACKING CYCLONES**

- 1- [www.imd.ernrt.in](http://www.imd.ernrt.in)
- 2- [www.supertyphoon.com/Indian.html](http://www.supertyphoon.com/Indian.html)
- 3- [www.npmoc.navy.mil/products](http://www.npmoc.navy.mil/products)
- 4- [www.solar.ifa.hawaii.edu/tropical/tropical.html](http://www.solar.ifa.hawaii.edu/tropical/tropical.html)
- 5- [www.underground.com/tropical](http://www.underground.com/tropical)

## **CYCLONE CONTINGENCY PLAN**

The Cyclone Contingency Plan will come into force as soon as the storm **warning signal No.5 or** higher is hoisted or when the Port organization has gathered enough data to **forecast that a cyclone threat is close.**

1. The Cyclone station will come into operation at the Signal Station.
2. The CEO will be in charge of the Cyclone Station.
3. Storm warning signals will be hoisted at the Cyclone Station.
4. CEO will inform the CEO and Heads of Departments by telephone/Mobile the status of worsening weather conditions and storm signals.
5. **A cyclone coordination centre will be made functional in the Administrative Building headed by AGM Administration.**
6. The Cyclone Coordination Centre will be in constant touch with Signal Station and District, Local Administration for rescue and relief operation.
7. All other departments to operate their respective control rooms. Signal Station, cyclone co-ordination centre and control rooms will function round the clock and will be closed only after obtaining the necessary orders from the CEO.

## **TRAFFIC DEPARTMENT**

Under the overall supervision and responsibility of the HM, the specific duties of marine personnel will be as below:

- 1- Responsible for the operation of the Signal Station and will issue necessary standing orders for the purpose.
- 2- Close liaison with Radar Station, Police Wireless Station, Coast Guard, Indian Navy and Ships in Port regarding weather conditions.
- 3-Prepare special signals and promulgate them to the Masters of the vessels, dredgers, tugs and any other crafts in Port. He will inform the Masters of all vessels at the berths to double the moorings, put out insurance wires and to keep engine ready to proceed out to sea if situation warrants. Decision regarding sending ships to the anchorage will be taken depending on the strength of the wind likely to be encountered and number of vessels in the Port.
- 4-He will maintain a close liaison and co-ordination with the Tug Engineer for arranging staffs for manning the Port Crafts.

**II-SIGNAL STATION**

1-The staff of signal station will remain on duty until they are relieved by next shift staff or till alternative arrangements are made or till the storm has passed or as per the CEO instruction.

2-Every two hourly barometer reading will be recorded after cyclone warning signal No.3 is hoisted but the same will be made hourly if further upward signal is placed. Any drop of 2 mb in barometer to be informed to CEO / HM / HEAD SECURITY

3-One Aldis lamp with battery will be kept ready at signal station.

4-The signal station will maintain a continuous watch on channel 16. Signal station will keep CEO, HM and HEAD SECURITY informed of all the messages received by telephone, VHF sets or by messenger.

5-Signal station will inform the CEO / HM of any buoys or crafts are seen adrift or any Port installation is seen or informed to be in danger.

1. The staff on duty will have sufficient provisions to stay on duty for a period ranging from 24 hours to 48 hours.
2. Signal station receiving any weather related facsimile report will pass on to the CEO / HM / HEAD SECURITY.
3. Continuous watch to be kept on movement of depression. On receipt of any warning, the same shall be reported immediately to the cyclone co-ordination centre.

**III - TIDAL OBSERVATORY-**

The Traffic office will record the range of tides, times and heights of high and low water who will in turn apprise the CEO / HM and or Sr pilot on duty of the actual and predicted tides.

**IV. Hydrography Surveyor/PILOT**

The above officers will assist the CEO at the Cyclone Station. One Pilot has to be kept standby to proceed on board anywhere in the Port as required.

**V. Berthing Master**

1. Berthing Master will detail one berthing team to remain on duty as emergency duty squad unit being relieved by the next shift staff or until Head Marine instruction.

2. Berthing Master will take all necessary steps for the safety of the Port crafts and should ensure that all other crafts are placed at safe place and properly secured excepting one pilot launch and one stand by launch used for inspection and emergency duties.
3. He along with emergency squad will make frequent round to check the safety of Port Crafts.
4. Extra Fenders and Hawsers of ropes/wires will be kept ready so as to attend to any craft whose moorings may part.
5. Berthing Master will inform the cyclone station immediately in the event any craft is seen adrift or any other Port installation is seen in danger
6. He will also keep a listening watch on his walkie talkie set for information.

**MASTER OF TUG/PILOT LAUNCHES AND OTHER LAUNCHES**

1. Masters of respective crafts will instruct their staff to remain on board until they are relieved by next shift staff or HM releases them from duty.
2. Masters will shift their respective crafts at suitable places as directed by the Traffic Manager and will secure them suitably with additional moorings. Masters of respective crafts will be responsible for proper securing and safety.
3. Masters will keep the engines of their crafts ready to proceed at short notice as per the instructions of the HM.
4. Extra fenders will be kept ready on board of the Tug for use as required.
5. If any craft is seen adrift or any other port installation is seen in danger, the Master of the crafts will immediately inform the cyclone station.

**B-ELECTRICAL AND MECHANICAL ENGINEERING DEPARTMENT**

**FIELD UNITS COMPOSITION:**

<b>Division</b>	<b>Positions</b>	<b>Nos</b>	<b>Division</b>	<b>Positions</b>	<b>No</b>

## **II. PRECAUTIONARY MEASURES**

1. Cyclone warning signals shall be communicated to all field units from the control room.
2. The field units shall communicate the signal to all the staff of the Divisions.

## **GENERAL FUNCTIONS OF FIELD UNITS**

1. All the equipment shall be properly secured.
2. Safety of workmen on duty shall be given priority during work
3. Operator's cabin doors of all the equipment and vehicles shall be kept shut.
4. Important documents/files/records at site must be stored well above the floor.

## **SPECIFIC DUTY**

### **1- Wagon tippler**

1. Electrical Control Panel of the wagon tippler/ RRS to be properly shut off.
2. Wagons to be taken out of the tippler table / RRS table and no empty wagons should be kept in the inner line.
3. Power breaker to be made off.

### **2 - All Conveyors, Stackers, Stacker-Cum-Reclaimers, Reclaimers:**

1. Machine to be travelled to designated position
2. Tie down the belts, locking of travel wheel, locking of boom conveyor
3. Slewing locking bolts to be fitted.
4. Rail clamps to be tightened
5. Booms are to be properly clamped.
6. Power to be shut off - outgoing feeder from substation to be switched off
7. Control room of the machine should be properly locked
8. All conveyors should be tied down at the head end and tail end.

### **3-Main Control Room:**

1. Power should be shut-off, breaker should be made-off and doors should be closed.

### **4- Ship Loader:**

1. Conveyors to be cleared of all cargo.
2. Belt to be tied down at the tip on both sides of the ship loader.
3. Blocking of travel wheels after latching of the booms.
4. Diesel generating set should be tried and kept ready for supplying power wherever necessary.
5. Anchoring of the Ship loader at its parking position.
6. Rail clamp to be tightened

#### **4. Site Store**

1. All the doors and windows should be locked up and power should be made off.
2. All the equipments like cranes, etc. in working condition should be sent to Marine/Central Workshop for safe.
3. Welding generator should be kept inside the store and locked up.
4. Communication system should be tested for operation.
5. Battery charging point should be operated through a DG Set.
6. A vehicle should be available at the control room.
7. Head Store will have a temporary advance if required for contingency expenditure.

#### **5. Port Electrical Division**

1. On receipt of directive about cyclone warning, the power supply of main sub- station to be made off and communication system from control room to the sub- station to be kept operative.
2. 132 KV Control Room will be manned during the cyclone.
3. Walkiey-talky handsets must be made available in all the substation for establishing communication
4. Two emergency vehicles should be kept stand-by for attending to various duties.
5. Head Electrical Division will have a temporary advance if required to meet the contingency expenditure.

#### **6. Marine Division**

1. Engine room entrance doors, sky lights etc. of all the floating crafts to be kept shut.
2. All the heavy earth moving equipment and vehicles must be stored in sheltered locations and operator's cabin must be kept shut.
3. Special care shall be given for securing the crane boom.
4. Marine Engineer will have a temporary advance if required to meet contingency expenditure.
5. Crafts are to be manned all time.

#### **8. Tug Engineering Division**

1. EICs (Engineers in Charge) of all tugs on receiving the cyclone warning must ensure that tugs are in readiness for operation.
2. Tugs will be operated as per the Traffic Manager Department's requirement.

#### **. Loco Shed**

1. Loco engines to be parked inside the shed
2. The point to the shed line to be blocked.
3. All derailing equipment, batteries and tools shall be kept ready for emergency use.
4. Two groups of wagon staff to be kept as standby.
5. The cross and long travel of the EOT crane to be blocked and hook to be anchored.



## **10. Engineering Services- Central Workshop**

1. The centre Workshop shall be manned by one group of staff consisting of one Machinist, one Fitter, one Welder and three Helpers to attend to emergency requirement.
2. Power supply to all the machineries and equipment to be shut off.
3. Doors and windows of the Central Workshop to be kept shut.

## **11. Cargo Handling Division**

1. All mobile cranes to be kept at stowing area with booms of cranes lowered and clamped. The cabin doors and panels to be kept closed.
2. All cranes on jetty are properly anchored on rail, slewing to be blocked and booms are secured. Booms are secured in the direction of the track.
3. Forklifts and all heavy earth moving equipments are parked inside the shed.
4. 03 Crane operators and 06 helpers to be available on duty during cyclone period.
5. Head Cargo division will have temporary advance if required to meet the contingency expenditure.

## **C- CIVIL ENGINEERING DEPARTMENT**

1. The staffs as per usual shifts are deployed at each of pump house during cyclone.
2. A sufficient quantity of bleaching powder, alum etc. and the water treatment plant is kept ready for water treatment during cyclone period.
3. As soon as the contingency plan is made operational all the water tanks should be filled up and standby arrangement for supply of water to be made with special provision for the hospital.
4. Position one Engineer exclusively to look after navigational aids, fenders; transit shed doors and roofs etc. along with necessary staff.
5. Position one Engineer along with necessary staff to look after the sea wall condition & if any breach is noticed along the side of the sea-wall, immediate steps should be taken up for it's repair.
6. Keep ready 3,000 to 4,000 empty cements bags for use.
7. All measures to be taken to minimise uprooting of trees.

## **MARINE DEPARTMENT**

### **1- Operation**

1. All loading/unloading of cargo operations to be ceased.
2. All the cargoes under Port's custody, lying outside and likely to get damaged, will be shifted to Transit Sheds/Ware Houses.
3. Doors of the sheds will be closed and properly secured.
4. He will visit the site and inspect the arrangements.

**2- Railways**

1. Yard Master personally takes over the charge of yard supervision instead of leaving the same to shift staff.
2. Movement of wagons is stopped when wind speed exceeds the operational limit (70 KM per hour).
3. All the rolling stock on tracks is clamped / chained both in Port area and exchange yard and the locomotives are returned to the Loco Shed.

**ADMINISTRATION DEPARTMENT**

1. Head Administration will remain overall in-charge of the Cyclone Coordination Centre.
2. He shall make a duty roster for the manning of the cyclone coordination centre by the officers of Administrative, Finance & Accounts and Materials Management Department.
3. The Co-ordination Centre will keep constant touch with the Local & District Administration for rendering necessary assistance.
4. The port Public Relations Officer will ensure announcement by the mike in the township indicating the precautionary measures to be taken.
5. He will hire basic transport and will detail Officers to remain in-charge of various relief centres.
6. He will make necessary arrangement in coordination with the local administration for evacuating people from the low lying area. They will be shifted to relief centres like Guest Houses of DPCL & other associates

**FINANCE & ACCOUNTS DEPARTMENT**

1. All the department may inform the Finance & Accounts Office the amount of cash required by them so that the same can be kept in advance and can be disbursed by one of the Officers of the Finance & Accounts Department as per need.

**MEDICAL DEPARTMENT**

- 1-The casualty ward is to be manned by one Specialist in addition to the regular Doctors attending.
- 2-The Ambulance has to be kept standby near the casualty ward.

**MATERIAL MANAGEMENT DEPARTMENT**

1- During cyclonic season sufficient stock of stores like Polythene, J.Hooks, screw hinges, gunny bags, tarpaulins, ropes and wires for Port Crafts, diesel oil, kerosene oil, petromax lamps, torch lights with batteries and bulbs, electrical items etc. are kept.

2- All the materials which are likely to get damaged with rain are covered with tarpaulin.

3- One Stores Supdt, one Store Keeper and the other minimum staff required to issue materials including POL are kept during emergency.

**Port Security Officer**

1- Intensive vigil on stores/buildings which are likely to be affected by Cyclone.

1-Central stores 2-BMH 3- Jetty	4- WTP 5-Transit Sheds 6- Fuel Depot	6-Ware Houses 7-Administrative Building
---------------------------------------	--	--

2- Thorough checks on all out-going vehicles to guard against pilferage.

3- A special task force to be set up for the rescue operation.

**GENERAL INSTRUCTIONS**

- 1- All dept. will ensure that the doors and windows are properly closed prior to leaving the office.
- 2- All important files are stored in secure cupboards

**POST CYCLONE DUTIES**

1. All HODs are required to assess the damage and submit a detailed report indicating the estimate to the CEO. A team may be formed comprising HM, EE (Elect, Mech., and Civil) and assisted by one representative from the Finance Department. The preliminary report is to be submitted within 48 hours and detailed report within four days from the date of normalcy.
2. Hydrography survey is to be conducted to assess the channel condition and ensure resumption of shipping as early as possible.
3. In case of any small craft sunk or grounded the same to be removed to make the channel/berth safe for navigation. CEO will detail a salvage party headed by the HM.
4. A team of Officers to be nominated by the Administrative Department to supervise the rescue and relief operation and disposal of animal carcasses in coordination with the local and District Administration.
5. Preventive measures for epidemics to be taken by the Medical Department.
6. All the operating systems to be attended urgently and made operational as early as possible on a war footing basis to resume operation.
7. **Spot tendering procedure for repairs up to Rs.2 Lakhs by concerned Dept.**
8. Water supply and electricity to be given priority. The electrical cabling net work to be checked area-wise. The inspection team to be decided by the CE & ME for obtaining clearance to resume power supply.
- . All damaged temporary roofed houses in the port premises are to be attended.
10. The Manager Materials will nominate a team for the procurement and supply of essential materials for repair of various structures and equipment as reported.
11. To assess the progress of repair works, HODs meeting will be held daily till normalcy is restored.

**FLOODS-SIMILAR TO CYCLONE**

<b>DEPT</b>	<b>ACTION</b>
HM	<ul style="list-style-type: none"> <li>• Signal Station passes weather message to HM and DC</li> <li>• HM places on-site action group alert</li> <li>• CEO apprises Chairman of weather developments who places CMG on alert if necessary.</li> </ul>
Civil Dept.	<ul style="list-style-type: none"> <li>• Drainage system of the port i.e inside harbour area &amp; out side harbour area should made cleared.</li> <li>• Trailer mounted portable Diesel pump sets to be made standby with sufficient length of hose pipes.</li> <li>• Sand bags to be used around sensitive areas including water supply</li> <li>• Pump stations electric sub stations</li> </ul>
E & M Dept.	<ul style="list-style-type: none"> <li>• All the outside installations and equipment shall be properly secured.</li> <li>• Cyclone field units to be made alert</li> </ul>
Administration	<ul style="list-style-type: none"> <li>• To make standby arrangements for transportation to evacuate population to cyclone centres and relief centres.</li> <li>• Arrange food and water.</li> </ul>

**EARTHQUAKE**

<p><b>EARTHQUAKE PREDICTIONS</b> Local earthquake are difficult to predict Dhamra is in Seismic Zone 1 &amp; 2(lowest risk) which is quite safe as compared to Gujarat which is in zone 4 &amp; 5(highest risk)</p> <ul style="list-style-type: none"> <li>• Frequency of tremors as reported in the newspapers, TV and radio</li> <li>• Rattling of doors and windows</li> </ul>	<p><b>CHARACTERISTICS-QUAKE</b></p> <ul style="list-style-type: none"> <li>-Magnitude</li> <li>-Focal depth</li> <li>-location of epicentre</li> <li>-Rupture length</li> <li>-Rupture orientation</li> </ul> <p><b>PROPERTY-characteristics</b></p> <ul style="list-style-type: none"> <li>-Distance from focus</li> <li>-Soil conditions</li> <li>-Geology</li> </ul> <p>Are buildings constructed to</p>
---	---

**RELIEF WORK AFTER AN EARTH QUAKE**

DEPT	ACTION
CEO	To contact the District Collector, Relief Commissioner, Army, Navy, Coast guards and seek assistance for Port Town ship.
Administration	To assist the Chairman to assess relief requirements. Arrange Food, shelter &
E & M Dept.	To provide and hire if necessary, earthmoving equipments, cranes, forklifts, bull dozers etc.
Civil Eng Dept.	Deploy engineers to direct or guide earth moving equipment and cranes to remove the debris
Harbour Master	Ensure safety of cargo in cargo sheds and at rail siding. Ensure the safety of Port Marine craft and vessels
HEAD	To organise Search and Rescue of persons trapped under debris.
Medical	CMO to ensure provide of proper Medical Aid to the injured

- If outdoors, find a clear spot away from buildings, trees, streetlights, and power lines. Keep lying on the ground and stay there until the shaking stops. Injuries can occur from falling trees, street-lights and power lines, or building debris.
- If on vehicle, pull over to a clear location, stop and stay with your seatbelt fastened until the shaking has stopped. Trees, power lines, poles, street signs, and other overhead items may fall during earthquakes. Stopping will help reduce your risk. Once the shaking has stopped, proceed with caution. Avoid bridges or ramps that might have been damaged by the quake.
- If indoor – Go below bed / table until the shaking stops. Avoid lift and Staircase.

**TSUNAMI**

**CHARACTERISTICS-** Tsunamis are a series of enormous waves created by an underwater disturbance such as an earthquake, landslide, volcanic eruption, or meteorite. A tsunami can move about 500 miles per hour in the open ocean. Once the wave approaches the shore, it builds in height. The topography of the coastline and the ocean floor will influence the size of the wave. There may be more than one wave and the succeeding one may be larger than the one before. Tsunami waves and the receding water are very destructive to structures. **The Tsunami warning is issued on earthquake having intensity of more than 6.5 on richter scale.**



**WARNING/CONFIRMATION**

- Met. Station
- TV and Radio News

DEPT	ON SITE ACTION GROUP
Harbour Master	<ul style="list-style-type: none"> <li>• Through Signal Station informs all the ship to evacuate from the berth to open sea. Signal Station keeps in touch with all vessels on VHF.</li> <li>• Move tugs and launches to safe areas or deep water anchorages</li> <li>• Crew to wear life jackets.</li> <li>• Cease cargo operations immediately.</li> </ul>
ADMINSTRATIO	<ul style="list-style-type: none"> <li>• Arrange transport to evacuate to safer inland areas</li> </ul>
Civil Engineering Department	<ul style="list-style-type: none"> <li>• Keep sand bags ready.</li> </ul>
E & M Department	<ul style="list-style-type: none"> <li>• Ensure proper secure of the cargo handling equipment and the shore cranes.</li> </ul>
HEAD	<ul style="list-style-type: none"> <li>• Evacuation of Personnel and cordoning off the area</li> </ul>
CMO	<ul style="list-style-type: none"> <li>• Treatment of Injured personnel</li> </ul>

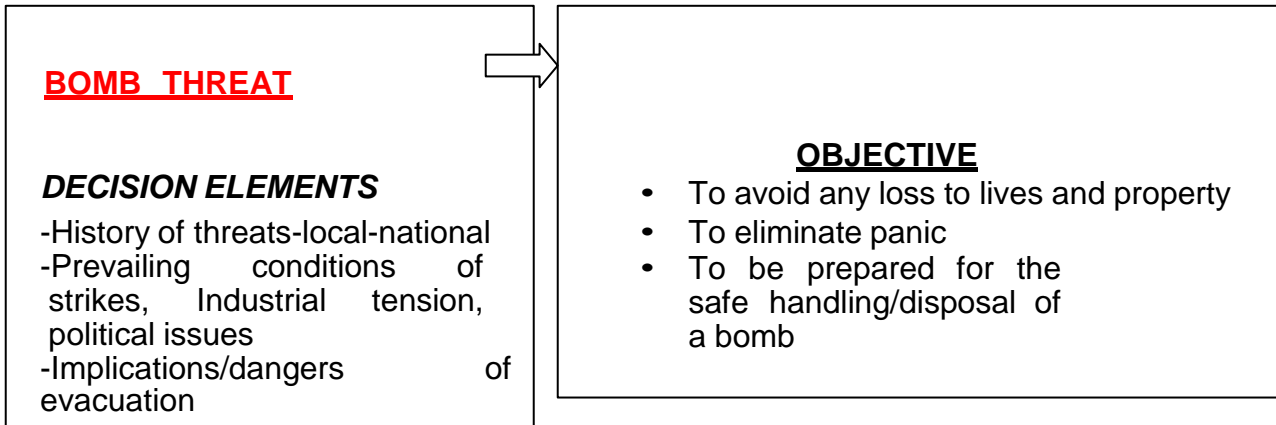
	CRISIS MANAGEMENT GROUP
CEO	Activates CMG
Harbour Master	CEO to apprise the CEO of any developments and early warning Systems.
Administration	Keep in constant touch with state Govt.

**GUIDELINES FOR TIME TO RESTORE PORT TO NORMAL  
OPERATIONAL POST DISASTER**

Though the restoration of Port will depend upon the intensity of the disaster however this deadlines may be considered for restoration of the Port amenities.

<b><u>NATURE OF RESTORATION TO</u></b>	<b><u>DEPTS &amp; RESOURCES</u></b>	<b><u>RESTOR E TIME</u></b>
Administrative building damage	CE Div.	1-3 days
Power Supply – restore sub stations	EE Div.	<2 days
Damage to tugs – floating craft	ME Div-Tug Engineer Div	2-18 days
Sunk/grounded vessels-	Salvage Efforts	1-3 weeks
Hydrographic survey channels/berths	Sr Hydrographic Surveyor	1-3 weeks
Damaged buoys- shifting of buoys	DC-HM-ME	4 days
Oil Storage Tanks	Maintenance Dept.	2 days
Road blockades-clear debris-fallen trees	Maintenance Dept.	1 week
Repair damaged roads	CE	<1 week
Injury & infection-medical treatment	Medical Department	1 week
Flooding & stagnant water - clean drains	Maintenance Dept.	3 days
Civil works –sea wall- Jetty-fenders-	DC-HM-ME	1 week
Electrical & Mechanical works	Elect. & Mech. Department	1 week
Damage to Mobile cranes	Maintenance Dept.	<1 week
Jetty Cranes	Maintenance Dept.	<1 week
Ship loaders-reclaimers-stackers-	Maintenance Dept.	<1 week
Checking of damaged railway lines	Railway Division	< 1 week
Checking of transit sheds, ware houses	Traffic department	3 days
Checking of quarters of port employees	Roads & Bldg division	3 weeks
Checking and rectification of drinking	Civil Engg.	2 days





Dept	Action
HEAD SECURITY	1- Mobilise man power from off duty personnel and detail them for a thorough search/combing operation of premises where the bomb is planted and its adjacent areas.
	2-Ensure that the information has been passed to all concerned.
	3-Recommend emergency classification II or III to CEO
	4- Will ensure that panic is not created and situation is kept under control.
	5-Requisitions of fire tender and ambulances and positioning them at a safe distance from the threatened or suspected area.
	6-Ensures evacuation of the workmen working inside the port area, if the threat is inside the prohibited area.
	7-Requisitions of BDDS (Bomb Detection & Disposal Squad) from Cuttack.
	8- Cordoning off the entire area.

**Checklists-Questions to Ask Bomb Threat Caller**

- Threat received in - writing or telephone
- On phone keep caller on line as long as possible
- Ask colleague to inform security to trace call-tape recorder
- Ask for - bomb location, time of detonation, type of a bomb, How does it look, How do you know so much about bombs?
- Advise caller of the loss of innocent lives as a consequence of a bomb detonation
- Could he live with this guilt for the rest of his life  
Whom does he represent & why is he doing this?
- Background Noises - music, airport, railway, factory, tel. booth, trace place of call
- Check voice characteristics – Male, Female, Voice Quality, Calm, excited, Anger
- Age, Accent –local, out of state, foreign, disguised
- Speech Impediment, stammer, slow, educated, laughing, deliberate, familiar
- Inform HEAD SECURITY immediately.

### Preventive Steps

- f* Explosives – Difficult to detect. Easy to explode remotely/timed.
- f* BE PREPARED – Prevent Self loss & Port's loss.
- f* Prevention is better than Cure.
- f* Check & Prevent unknown entry.
- f* Control access of men, material in port areas.
- f* Check all items/stores thoroughly before accepting them.
- f* Report presence of suspicious unattended items, cycle, 2/4 wheelers, persons.
- f* Good House Keeping is important.

### Types of Suspicious objects

On sighting an object containing suspicious device i.e. Scooter / Cars / Transistors / Suitcases / Brief Cases and other traps like trip wire, doll, and electronic IED's etc. The measures to be taken are

- Nobody to go near the suspected objects.
- The areas to be evacuated includes up to the safety area.
- A protective wall of sand bag to be arranged around the suspected article.
- If the electric wire to the battery and a switch connects the IED's / objects, it is not to be operated.
- If any visible wires are hangings from the abandoned / parked vehicle is noticed, it should not to be touched.
- Do not put suspected article in water.
- Do not take fire or inflammable material nearer to the suspected object.
- If suspicious items found in a room, all windows and doors of the room should kept open. Electric switches should not be operated. Gas connection to be removed.
- Do not touch suspected bomb to the Police Station.
- Prohibit the entry into the area and set up a cordon.
- If possible the suspected object be dragged to safety place with help of rope (Fish Hook)
- Do not use radio / wireless equipment (at least 50 mtrs within the suspicious objects or bombs)

- Do not pick up attractive items lying at odd places like transistors, toys, suitcases and dolls etc.
- Do not assume only one device is planted.

### Precaution on finding suspected objects in Port areas

#### 1. Car Bombs: -

Do not open the door, bonnet or dickey of the abandoned vehicle as there may be release type device planted in.

Do not start the vehicle under any circumstances as explosive material / IED may be planted inside connecting the ignition apart from a device and remote system for its blasts.

#### 2. Transistor Bombs: -

- ‰ The transistor bomb should not be operated as there is possibility of it's mechanism connected to the on-off switch to explode.
- ‰ It should not be lifted from its place or tilted as it may be fitted with release or anti disturbance mechanism.
- ‰ If any wires coming out of IED should not be connected together.

#### 3. Suitcase / Briefcase Bomb: -

Suspicious / abandoned or left over suitable or briefcase should not be opened as it may be fitted with release or pressure control switch.

### **What to look for? Search party should look for**

- Recently disturbed area.
- Saw dust, brick dust, wood chips.
- Greasy paper wrapping.
- Out of place object.
- Disturbed carpeting.
- Tin foils.
- Partly open windows / doors/ drawers.
- Fresh plaster/ cement.
- Loose electric fittings.

- Fish line, dirty ropes electric wires.
- Cut vegetation.
- Military containers of ammunition and explosives.
- Dusty foot prints. Scorched or new prints or timber.

### **Where to look for?**

Sanitary towel dispenser.

- Lavatories and cisterns.
- Rest rooms and lounges.
- Trash baskets and receptacles.
- Store rooms and boilers rooms.
- Excreta, dead bodies, motors or other victims.
- Open lockers.
- Auditoriums and recreational rooms.
- Unoccupied office and rooms.
- Basements.
- False ceilings, decorations light panels.
- Space under stair walls and stair ways.
- Elevator shafts and area used as access to plumbing fixtures, utility
  - and other areas.
- Air conditioning plants and over-heads water tanks.
- Telephones.
- Pornographic books.
- Flower beds and pots.
- Inflammable storage areas.
- Main switch boards and valve.
- Record storage and mail rooms.
- Drains, sewage and main holes.
- Chairs platforms and PA systems.
- Rooms below, up and surrounding area where a VIP is expected to address the public.

### **Points to remember?**

- Do not touch or remove packet unless duty bounds.
- Do not open the package with hands.
- Do not open the package.
- Do not submerge the package in water.
- Do not pull out the strings or wire.

- Do not pass the metallic object over the package.
- Handle the package alone.
- Do not accept the identification marks on the package on the face value.
- Do not bring a bomb or suspected object in a station house or
  - inhabited buildings.
- Do not use radio in the vicinity of bomb.
- Evacuate the people to safe distance. Always evacuate the people and **NOT the BOMB.**
- Do not direct a flash light on the bomb.
- Remove all inflammable items.
- Open windows and doors to minimize the blasts effects.
- Place sand bag around the object . Do not cover the object.
- Do not permit reentry of people until objects are removed.
- Do not be **DEAD HERO**. You can construct a building or house but you cannot make dead man alive.

**WAR ALERTS**

<b>DEPT</b>	<b>ACTION</b>
<b>PRESIDENT &amp; PM</b>	<b>DECLARATION OF WAR</b>
CEO	<ul style="list-style-type: none"> <li>• To activate CMG and ON SITE ACTION GROUP</li> <li>• Contact and Coordinate with Navy, Coast Guard &amp; Local Police.</li> </ul>
HEAD SECURITY	<ul style="list-style-type: none"> <li>• Implement blackout in port.</li> <li>• Intensify Patrolling</li> <li>• Place additional guards.</li> <li>• All Security personnel on standby.</li> <li>• Initiate Security level as per directives.</li> </ul>
TRAFFIC	<ul style="list-style-type: none"> <li>• Ensures all vessels at anchorage to observe blackout.</li> <li>• No night movements.</li> <li>• Ensures proper following of the Naval Instructions to inbound vessels.</li> <li>• Ensures shut down of all cargo operations after sunset.</li> <li>• Ensure workers within perimeter of dangerous/chemical tank farms shifted to safer perimeters.</li> <li>• All other workers to move out of port prohibited area as per directives.</li> </ul>
ELEC & MECH Dept.	<ul style="list-style-type: none"> <li>• Ensure essential services working during day and night.</li> </ul>
MEDICAL	<ul style="list-style-type: none"> <li>• Ensure ambulances and first aid staff kept in readiness on 24 hour basis.</li> </ul>

### **Terrorist Attacks / Hostage Situations**

If any personnel observe terrorist or hostage situations then immediately remove yourself from any danger and notify CEO / Port Security Officer with following Information

- Location place & time of incident
- Number of terrorist / possible hostage takers
- Physical descriptions of terrorist i.e. Height/ Weight/ Hair Colour/ Eye colour/ Complexion / types of clothes wearing.
- Names of hostage takers (If possible)
- Language spoken by them
- No. of possible hostages
- Type and number of weapon carried by them
- Your Name & details

HEAD SECURITY	1. On receipt of message immediately inform CEO / CEO. 2. Advise to Upgrade Security level 3. Cordon off concerned area 4. Assist Police and law enforcing agency.
Harbour Master	Stop or continue as per CEO orders Stop or continue cargo operation as per CEO order.
CMO	1. Keep all hospital staff on stand by. 2. Ambulance stand by.
Administration	Advise CEO and seek help from mutual aid agencies.

### **IN HOSTAGE SITUATIONS**

- Remain calm, be polite & cooperate with your captors.
- Do not attempt escape unless there is an extremely good chances of survival. It is safe to be submissive & abiding to the captors.
- Speak normally, do not complain, avoid being belligerent and comply with all orders and instructions of captors.
- Do not draw attentions to yourself with sudden body movements, statements, comments or hostile look.

- Observe captors & try to memorize their physical traits, voice patterns, clothing or other details that can help to provide a description later.
- Avoid getting into political or ideological discussions with the captors.
- Try to establish relationship with captors and get to know them, captors are less likely to harm if they respect them.
- If forced to present terrorist demands to authorities either in writing or on tape, state clearly that the demands are from your captors. Avoid making plea on your behalf.
- Try to stay low to the ground or behind cover from windows or doors, if possible.

### **IN RESCUE SITUATIONS**

- Do not run or drop to the floor. Remain still, if that is not possible, cross your arms bow your hand & stand still, make no sudden moves that a tense rescuer may interpret as hostile or threatening.
- Wait for instructions and obey all instructions that are given.
- Do not be upset, resist, or argue if a rescuer isn't sure whether you are a terrorist or a hostage.
- Even if you are handcuffed and searched do not resist. Just wait for the confusion to be cleared.
- You will be taken to safe area, where proper search and identification will be carried out.



## **HANDLING VIOLENT ACTIVITIES OF WORKERS**

**Normally violent activities arise out of anger on the spur of the moment and such violence exists for short time. The aim is to contain such activities at nascent stage & without any damage to property and person.**

1. The Security team confronting such elements to solve and defuse the situation, in an amicable manner.
2. If situation goes beyond control and show of force required then HEAD SECURITY to take action to meet the situation by forcible removal of person from site.
3. In the meantime the officer in charge of the spot will inform the Commandant who will if necessary send additional man power by mobilizing off duty personnel.
4. Simultaneously control room will inform the local police.
5. Depending on the gravity of the situation alert following.
  - (a) Inform CEO / Harbour Master / HEAD SECURITY / IR Officer
  - (a) Dhamra Police Station
  - (b) Port Fire Station
  - (c) Port Hospital
  - (d) Industrial Relations Officer & Dept. Head - To be present at the scene of incident.
  - (e) The Security Shift In Charge will use PA system and siren to disseminate correct information with appeals for calm and reason.
  - (f) The Security Command center will record the riot for collecting vital information and pictures for use when the perpetrators of crime are prosecuted as per the provisions of the law.
  - (g) **All Head of Dept. to recognize the potential trouble makers and prepare list of such employee, keep them under constant surveillance and have frequent interaction with them. It is imperative to nip the evil in bud.**

### **Ship Security Alert in Port Limits**

The **Ship Security Alert System** (SSAS) is part of the ISPS Code is a system that contributes to the efforts to strengthen maritime security and suppress acts of terrorism and piracy against shipping. The system is a joint project between COSPAS & SARSAT and the IMO. In case of attempted piracy or terrorism, the ship's SSAS beacon can be activated and appropriate law enforcement or military forces can be dispatched. The alarm is a covert signal, which will have no sound and no flashing lights so that it is in no way obvious to any intruders on board the ship. When an SSAS alert is triggered:

- the Rescue Coordination Centers or SAR Points of Contact (SPOCs) for the country code the beacon is transmitting is notified discreetly
- National authorities dispatch appropriate forces to deal with the terrorist or pirate threat.
- SSA alerts are not transmitted to ships in vicinity.

### **ACTION**

1. HEAD SECURITY will receive SSA alert from DG Shipping.
2. On receipt of alert inform – CEO / CEO / Harbour Master.
3. Implement **Security Level – III**
4. Action should not jeopardise concerned ship security. All action to be discreetly taken.
5. Inform - Police / Navy / Coast Guard.
6. Vessels at Anchorage then keep under surveillance. Prevent vessel from entering the navigable channel.
7. Vessel at Jetty, then keep under surveillance till arrival of law Enforcement Agencies arrival.
8. All tugs, craft and Pilot to be stand by.

## **SPILLAGE OF HAZARDOUS SUBSTANCES**

1. Port Signal Station reports spillage of hazardous Substances on Port properties to Harbour Master / CEO / HEAD SECURITY.
2. Port CEO inform CEO. Immediate

### Action

1. Determine the nature of the substance and approximate quantities involved. Verify from Master of the vessel, ship agent.
2. If details of substance are unknown and spill gives toxic or noxious fumes
  - Inform Port Hospital.
  - Initiate evacuation measures.
  - Notify Duty Pilot.
  - Where applicable turn off Air Conditioning – ventilate to open air if possible
  - Evacuation procedure to be upwind.
  - Remove any ignition sources if the spill is suspected to be combustible.
  - Cut Off Electric supply.
  - Seal off water approaches with launches and crafts.
  - Seal off entry points and clearing the area of all personnel / Public.
  - Evacuated persons are not to return to the affected area until all clearance given.

## **SPILLAGE OF HAZARDOUS OR NOXIOUS GAS**

Port Signal Station reports spillage of hazardous gas in atmosphere to Harbour Master / CEO / HEAD SECURITY.

Port CEO informs CEO.

### **Immediate Action**

- Isolate the source of the gas – only if safe to do so.
- Alert Port Hospital & Emergency services.
- Shut down the air conditioning to prevent the spread of gases.
- Remove any ignition sources if the gas is suspected to be combustible – only if safe to do so.
- Turn off the electrical supply.
- Inform Port Environmental Representative
- Assess the need to evacuate any personnel within port area, including ships crew. Such assessment will be made with regard to wind speed and direction, the type of gas in the atmosphere, the characteristics of the gas.
- Stop all cargo work.
- The Masters and agents of all vessels in the vicinity should be informed of the emergency.
- Movement of all vessels should be stopped as necessary.
- All evacuation and assembly areas are in upwind directions.

**FIRE ON BOARD A VESSEL IN PORT –CHECK LIST-**

Dhamra Port Berth..... Date.....  
 Vessel..... Agent.....  
 .. Fire fighting Facilities on  
 vessel..... Location of  
 Fire.....  
 Substance(s) burning.....  
 .....

Nature of  
 Hazard.....  
 .....

Details of Dangerous goods on  
 board..... Likelihood of explosion  
 .....

explosive gas..... Generation of  
 close area ..... Generation of  
 Dhamra Port Emergency  
 Coordinator..... Police advised and  
 requested to attend .....

Requested to close area  
 .....

Other action  
 .....

Agent advised  
 .....

with Master..... Consulted  
 Fire Officer.....

Need to move vessel  
 .....

Movement of other  
 vessels stopped ..... Cargo  
 operations ordered to cease .....

Tug company advised  
 .....

Port Launches  
 ordered to attend .....

Request to  
 Master for stability data .....

Intake of  
 water, effect on stability .....

Protection of shore property from fire  
 .....

Removal of plant  
 etc..... Divers required  
 .....

Establish  
 communications .....

Impact  
 on Environment .....

**FIRE ON BOARD A TANKER IN PORT –CHECK LIST-**

Port..... Berth..... Date.....  
 ..  
 Vessel..... Agent.....  
 .. Fire fighting Facilities on  
 vessel..... Location of  
 Fire.....  
 ..  
 Type of Cargo..... Quantity  
 .. Cargo operations  
 ceased..... Lines  
 cleared..... Quantity.....  
 Likelihood of explosion  
 .. Dhamra Port  
 Emergency Coordinator..... Police  
 requested to attend ..  
 Area cleared..... Agent  
 advised..... Other  
 action.....  
 ..  
 Consulted with  
 Master.....  
 Fire Officer.....  
 Movement of other vessels stopped  
 .. Need to move tanker  
 .. Need to move  
 other vessels .. Tug  
 company advised ..  
 Port Launches ordered  
 .. Communications  
 established..... Need to  
 evacuate hazard zone .. Oil  
 pollution equipment positioned ..  
 Protection of berth  
 .. Protection of  
 berth .. Impact on  
 Environment ..

**Fire Extinguished**

Precautions against re-ignition .....  
Gas generation ..... Explosion  
.....General Security.....

**GROUNDING OF A VESSEL IN –CHECK LIST-**

Port.....location.....Date.....

Vessel.....Agent.....

..... Pilot..... Master Time

of Grounding .....

Cause of Grounding.....

.....

Port Emergency Coordinator.....

Agent advised .....

Tug company advised .....

Port Launches ordered .....

Vessel length .....Draft F.....A.....M.....

Tides .....

Tide ..... at ..... time ..... of ..... grounding

..... Direction of vessels

head ..... Movement of

other vessels stopped .....

.....

Damage to vessel .....

.....

Pollution .....

.....

Confer with Master .....

.....

Evacuation ..... of ..... passengers ..... (if

any).....

..... Plans

to refloat Vessel .....

.....

.....

Impact ..... of ..... Environment

..... Berth

..... Remarks .....

.....

.....

Date .....



**SINKING/CAPSIZE OF A VESSEL IN – CHECK LIST-**

Port.....location.....Date.....

Vessel.....Agent.....

..... Pilot..... Master Time

of Sinking/Capsize .....

Cause of Sinking/Capsize .....

.....

Port Emergency Coordinator.....

Agent advised .....

Tug ..... company ..... Port advised Launches

ordered ..... Vessel

length ..... Draft F.....A.....M..... Tides

..... Tide

at time of Sinking/Capsize .....

Direction ..... of ..... vessels ..... head

..... Movement of other

vessels stopped ..... Damage to

vessel .....

.....

Pollution .....

.....

Confer with Master .....

.....

Evacuation of passengers (if any).....

.....

Plans to refloat Vessel .....

.....

.....

Impact of Environment .....

Berth .....

Remarks

.....

.....

.....

Date .....

**SINKING/CAPSIZE OF A VESSEL – CHECK LIST-**

Port.....location.....Date.....

Vessel.....Agent.....

..... Master  
 .. Pilot..... Time

of Sinking/Capsize .....

Cause of Sinking/Capsize .....

.....

Port Emergency Coordinator.....

Agent advised .....

Tug company advised .....

Port Launches ordered .....

Vessel length .....Draft F.....A.....M.....

Tides .....

Tide at time of Sinking/Capsize  
 ..... Direction of vessels head  
 ..... Movement of other  
 vessels stopped .....

.....

Damage to vessel .....

.....

Pollution .....

.....

Confer with Master  
 .....

.....

Evacuation of passengers (if any).....

.....

Plans to refloat Vessel .....

.....

.....

Impact of Environment .....

Berth .....

Remarks .....

.....

.....

Date .....

**COLLISION BETWEEN TWO VESSELS WITHIN PORT LIMITS –CHECK LIST-**

Port.....location.....Date.....  
. Vessel 1.....  
Pilot .....Agent .....  
Vessel  
2..... Pilot  
..... Agent ..... Port  
Emergency Coordinator.....  
Agent advised .....  
Tug company advised .....  
Port Launches ordered .....  
Condition of vessel .....  
.....  
.....  
.....  
Confer with Masters .....  
.....  
.....  
.....  
Action to be taken to move vessels .....  
.....  
.....  
.....  
Impact of Environment .....  
Likelihood of pollution ..... Type of  
..... Quantity .....  
.....  
.....  
Remarks  
.....  
.....  
Date.....

**FLOODING DUE TO HIGH TIDES OR HEAVY RAIN –CHECK LIST-**

Port ..... Date .....

Port Services Personnel Ordered

**Condition of vessels in port:**

VESSEL	BERTH	REMARKS

Ports vessels


Cargo Sheds/stacking Areas/Areas adjacent to Jetty


Action taken to protect buildings

.....  
 .....  
 .....

Cargo .....

.....  
 .....

Equipment .....

.....

Disconnection of power .....

Preparations for subsidence of

water.....

**DAMAGE DUE TO EARTHQUAKE OR SEVERE TEMPEST CONDITION-CHECK LIST-**

Port ..... Date  
 ..... Port Personnel Ordered

**Condition of vessels in port:**

VESSEL	BERTH	REMARKS

**Ports vessels**


**DAMAGE**

- Power lines .....
- Water mains .....
- Gas mains .....
- Oil pipelines .....
- Storage tanks .....
- Pollution of sea .....
- Communications .....
- Ports buildings .....
- Berths .....
- Equipment .....
- .....
- Action taken .....
- .....
- .....
- .....
- ..

**BOMB THREAT ON VESEEL –CHECK LIST-**

Port:.....  
Date...../...../.....  
Ship:..... Berth .....

Area location: .....  
Police notified:

Port emergency Coordinator:.....  
Area/Berth closed off:

Worked stopped:

Confer with Police

Advice to Master of the ..... At  
Berth.....

.....At Berth.....  
.....At Berth.....

Movement of vessels stopped:

Personnel evacuated if appropriate:

Vessels in vicinity shut down:

Evacuation of Crews if deemed necessary:

General Security

Measures:..... Impact on

environment:.....

Pollution: .....

**POLLUTION BY A HAZARDOUS OR NOXIOUS GAS -CHECK LIST-**

Port .....Date ..... Location.  
Area affected .....  
Source .....  
Type of Gas ..... Source  
rectified ..... Port Emergency  
Coordinator..... Environment Officer contacted  
Police advised .....  
Area closed .....  
Other action .....  
Work stopped .....  
Confer with Senior Fire officer .....  
Confer with Senior Police .....  
Advice to the Master of the “ .....Berth .....  
“ .....Berth. “ .....Berth.....  
Movement of other vessel stopped .....  
Vessels in vicinity shut down .....  
Emergency evacuation areas upwind of spill.....  
Crew and other personnel evacuated .....  
.....  
General Security Measures .....  
.....  
Impact of Environment .....  
Pollution .....  
.....  
Samples to be acquired .....  
.....  
Port Environmental Representative advised .....  
.....  
Remarks .....  
.....  
.....  
Date .....





**DISTRIBUTION LIST**

<b>COPY NO.</b>	<b>COPY HOLDER</b>	<b>COPY NO.</b>	<b>COPY HOLDER</b>
	CEO		<b>CIVIL ENGINEERING DEPT</b>
	CEO		
	Secretary Ministry of Shipping <b>ADMINISTRATION DEPT</b>		
	<b>SAFETY &amp; FIRE DEPT.</b>		
			<b>FINANCE DEPARTMENT</b>
	<b>TRAFFIC DEPT</b>		
			<b>TRAFFIC DEPT</b>
			<b>MEDICAL DEPT</b>
	<b>ELECT. &amp; MECHANICAL DEPT.</b>		
			<b>MATERIAL MGMT. DEPT</b>
	<b>SECURITY</b>		
	<b>OUT SIDE AGENCIES</b>		<b>OUTSIDE AGENCIES</b>
	Superintendent of Police		Navy
	Director General of Police		Coast Guard
	Chief Secretary		Army
	Joint Secretary (Ports)		
	Collector Bhadrak		
	Addl. District Magistrate		

Date:-

ISSUED BY CEO

**MUTUAL AID TELEPHONE NUMBERS**

<b>MINISTRY OF SHIPPING</b>	<b>OFFICE TEL</b>	<b>RES TEL</b>	<b>WEB SITE- FAX NO</b>
Transport Bhavan, 1 Sansad Marg			<a href="http://www.shipping.nic.in">www.shipping.nic.in</a> Fax 23715118
Shri G K Wasan Minister	011 - 23710356	233567111	
Shri Mukul Roy - Secretary Ministry of Shipping	011 - 2371438	2467455	Telefax 23716656
Shri Chandrasekhar Balakrishnan,	23710140	268858	
Shri R. Srivastav Joint Secy (P)	23711873		
<a href="http://www.dredgingcorpofindia.com">Dredging Corp of India Limited</a>			<a href="http://www.dredgingcorpofindia.com">http://www.dredgingcorpofindia.com</a>
Directorate General Shipping	1-22-22613651	Fax. 22613655	<a href="mailto:dgship@dgshipping.com">dgship@dgshipping.com</a>
<a href="http://www.ipa.nic.in">Indian Ports Association</a>			<a href="http://www.ipa.nic.in">www.ipa.nic.in</a>
<a href="http://www.tariffauthority.gov.in">Tariff Auth Major Ports (TAMP)</a>			<a href="http://www.tariffauthority.gov.in">www.tariffauthority.gov.in</a>
Indian Maritime University Chennai	24530343/44/45	Fax 044-24530342	EC Road, Uthandi, Chennai 11 <a href="http://www.nim.in">www.nim.in</a> <a href="http://www.nic.in">nic.in</a>
<b>OFF SITE GROUP</b>	<b>Office Tel</b>	<b>RES TEL</b>	<b>Address</b>
DG Police (Cuttack)	0674-2304451	2304662	
National Disaster Management Group	011-25655014	Fax-011-25655003	New Delhi
SP , Bhadrak	06724-220115/ 437102020	220015	Bhadrak District
Chief Secy & Ch Dev Commsr	0674-2534300	2536700	Gen Admin Dept Gov Orissa
Principal Secy-Rev dept	0674-253023		Rev dept-Govt of Orissa
State Govt Secy Food supply	0674-253682		
Relief Commissioner	0674-2536721		Sp Relief Commsr Bhub
Secretary Transport	0674-2536857		Commerce & Transport
Ch Engineer-State Elect. Board	0674-2404873		Chief Elec Inspect
Director Factories & Boilers	0674-236070		Kharavel Nagar Unit 3
Secy State Pollution Board	0674-2562368		
Commsr-State Water Supply	0674-2536764	2407330	Water Resources
Coast Guard, Paradip	06722-222712	222215	-
Navy, INS Chilka	06756-227087	227213	-

**IMPORTANT TELEPHONE NUMBER**

<b>District Administration STD Code - 06784</b>			
Collector Bhadrak	250436	240100, 240220	437061000
ADM		251881	437215788
PD DRDA	242864, 242865	243053	43736081
Bhadrak Tehsildar	240545		438252485
Basudevpur Tehsildar	271442		37432734
Chandbali Tehsildar			4372380
Tihdi Tehsildar	27438		861205118
Dist. Emergency Officer	1077	251881	43854441
<b>Dist.</b>			
Bhadrak, SP			
SDPO, Chandbali			438083737
Bansada Police Station			437532423
Marine Police Station Dhamra		437174343	437238046
Oic Dhamra Police Outpost			37385177
Oic Pirhat Police outpost			438757110
Tihdi police Station		777843800	438020100
<b>Fire</b>			
Dhamra Fire Station	06786 - 222771		77806881
Tihdi fire Station	06786 - 27501		
<b>Defence</b>			
Coast Guard, Paradip	06722-222712	222215	-
Navy, INS Chilka	06756-227087	227213	-
<b>EMERGENCY RESPONSE AND SECURITY OPERATION CENTER (ERSOC)</b>			
		70217	9937287436

