22/A

EC COMPLIANCE REPORT-4

(April 2018 to September 2018)

NEW DRY DOCK PROJECT
AT
COCHIN SHIPYARD LIMITED, KOCHI

कोचीन शिपयार्ड लिमिटेड
(भारत सरकार का श्रेणी 1 मिनि रत्न कंपनी, पोत परिवहन मंत्रालय)

COCHIN SHIPYARD LIMITED
(A Government of India Category-1 Miniratna Company, Ministry of Shipping)

INFRA/NDD/95/2018

19 Nov 2018

The Additional Principal Chief Conservator of Forests(C)
Ministry of Environment, Forests & Climate Change,
4th Floor, E&F Wings,
Kendriya Sadan,
Koramangala, Bangalore-560 034

Sub: Submission of documents in connection with Environmental Clearance for Dry-dock project of Cochin Shipyard Limited (CSL).

Ref: Environmental Clearance (EC) letter No.10-9/2015-IA-III dated 09 Nov 2016.

Sir,

1. This has reference to MoEFCC letter No.10-9/2015-IA-III dated 09 Nov 2016 according Environmental and CRZ clearance for new Dry Dock project of CSL.

2. Half yearly compliance report for the period, April 2018 to September 2018, including monitoring data is submitted herewith for your records please. Updated Monitoring report-Proforma-1 is also attached.

Hope the above will suffice requirements from MoEFCC.

Yours faithfully,

19 Nov 2018

A N Neelakandhan
General Manager (Materials)
Occupier – Environment (Protection) Act 1986

ए एन नीलकंठन
A N NEELAKANDHAN
दखलकार - पर्यावरण (संरक्षण) अधिनियम 1986
Occupier - Environment (Protection) Act 1986
कोचीन शिपयार्ड लिमिटेड
Cochin Shipyard Ltd.
कोच्ची / Kochi - 682 015

Encl:
1. Monitoring Proforma Part-1
2. EC Compliance status report

Copy: 1) Shri. M A Baiju, Chief Environmental Engineer, Ernakulam Regional office
Kerala State Pollution Control Board,
Gandhi Nagar, Ernakulam – 682 020

2) Shri S Suresh, Scientist 'E' & In charge, Regional Directorate
Central Pollution Control Board, 1st & 2nd Floors, Nisarga Bhavan
A – Block, Thimmaiah Main Road, 7th D Cross, Shivanagar,
Bengaluru – 560079

Encl:-1

MONITORING REPORT – PROFORMA – PART I

File No: INFRA/NDD/812/15 Ref Letter No: INFRA/NDD/812/15 Date: 3 Oct 2018

1	Name of the project	New Dry Dock Facility by Cochin Shipyard Ltd.
2	Clearance letter No. & date	Environmental Clearance (EC) letter No.10-9/2015-IA-III dated 09 Nov 2016.
3	Location : District & State / UT	Ernakulam, Kerala Latitude : 09° 57' 37.0488" N Longitude : 76° 17' 05.4458" E
4	Address for correspondence:	Shri. A N Neelakandhan Occupier-Environment (Protection) Act 1986 Cochin Shipyard Limited, Perumanoor P O ,Kochi-682015 Ph: +91 484 2501360 Fax: +91 484 2370897 Email: gmmat@cochinshipyard.com
5	Contact No. of Office with name of responsible official	Shri. Eldho John General Manager (Infra Projects) Infra Projects Department, Cochin Shipyard Limited, Perumanoor P O ,Kochi-682015 Ph: +91 484 2501913 Fax: +91 484 2370897 Email: eldho.john@cochinshipyard.com
6	Mobile No. of concerned officials associated with monitoring	1. Shri. Mohammed Gazel P A Senior Manager (Infra Projects) Infra Projects Department Cochin Shipyard Limited, Mob: +91 9895705124 Email: m.gazel@cochinshipyard.com 2. Shri. Vulli Haranath AGM (Infra Projects) Infra Projects Department Cochin Shipyard Limited, Mob: +91 8138001150 Email: vulli.haranath@cochinshipyard.com
7	a) Project cost as originally planned and subsequent revised estimates and the years of price reference	Cost Estimate (DPR stage)- 1799 Crores, year 2016
	b) Allocations made for environmental management plans, with item wise and year wise breakup	Contaminated Water Treatment Plant- 15.406 Crores Green Belt Development- 13.93 lakhs

8	a) Actual expenditure incurred on the project so far	Rs. 93.523 Crores as on 30 September 2018
	b) Actual expenditure incurred on the environmental management plans so far	Rs. 4,64,333/- as on 30 Sep 2018 (paid to Social Forestry Division of Kerala Forest Department for green belt development)
9	Date of commencement (actual and/or planned)	Planned: June 2018
10	Date of completion (actual and/or planned)	Planned: June 2021
11	Validity of CFO	Consent to Establish from Kerala State Pollution Control Board (Consent No.PCB/HO/ EKM-1/ICE/ 24/2016 dated 19/12/2016) valid up to 17 May 2019.
12	Reasons for the delay if the project is yet to start	Re-engineering involving time was necessitated to contain the cost within the budget
13	Present status of the project:	Construction contract awarded to M/s Larsen & Toubro Ltd, Construction, Heavy Civil Infrastructure, Chennai on 27 April 2018. Construction works commenced on 01 June 2018. Land development and Ground improvement works in progress.
14	E-mail ID of the contact person to whom communications to be sent	gmmat@cochinshipyard.com with copy to: 1) eldho.john@cochinshipyard.com 2) m.gazel@cochinshipyard.com
15	FAX Number	+91 484 2370897

General Manager (Infra Projects)

Cochin Shipyard Limited

NEW DRY DOCK PROJECT AT COCHIN SHIPYARD LTD.

EC COMPLIANCE STATUS – April 2018 to September 2018

SL No.	Conditions	Compliance Status as on 30 September 2018
A. SPECIFIC CONDITIONS		
i	Consent for Establishment shall be obtained from State Pollution Control Board under the Air (Prevention and Control of Pollution) Act, 1981 and the Water (Prevention and Control of Pollution) Act, 1974.	**Complied.** KSPCB had issued Consent to Establish (ConsentNo.PCB/HO/EKM-1/ICE/24/2016 dated 19/12/2016) for dry dock project.
ii	Construction activity shall be carried out strictly according to the provisions of CRZ Notification, 2011. No construction work other than those permitted in Coastal Regulation Zone Notification shall be carried out in Coastal Regulation Zone area.	CSL ensures that no construction work other than those mentioned in approved layout will be carried out.
iii	The environmental clearance is subject to obtaining prior clearance for Wildlife from the Standing Committee of the National Board for Wildlife.	**Complied.** Standing Committee of NBWL has cleared the project in its meeting held on 02 Mar 2017.
iv	All the recommendations and conditions specified by Kerala Coastal Zone Management Authority vide letter no.4232/A2/ KCZMA/S&TD dated 18th August, 2016 shall be complied with.	**Complied.** Kerala Coastal Zone Management Authority (KCZMA) has recommended the project without any specific conditions. All requirements as per CRZ Notification will be complied during construction and Operation.
v	The project proponent shall ensure that there shall be no damage to the existing mangroves patches near site and also ensure the free flow of water to avoid damage to the mangroves.	**Complied.** There are no mangroves near site.
vi	The project proponents shall ensure that no creeks or rivers are blocked due to any activities at the project site and free flow of water is maintained.	**Complied.** Mathematical modeling study was conducted by CWPRS, Pune. CWPRS report states that the development of proposed new dry dock at CSL on north side of existing quay wall will not hamper functioning of various waterfront facilities in the Ernakulam channel and hence may be constructed."
vii	Shorelines should not be disturbed due to dumping. Periodical study on shore line changes shall be conducted and mitigation carried out, if necessary. The details shall be submitted along with the six monthly monitoring reports.	Noted and incorporated in the Environmental Management Plan for its compliance.

viii	Since Ernakulam Channel ultimately meets the sea and the discharge is planned to conform to marine quality standards, the project proponent shall get a marine biodiversity management plan prepared from the NIOS or any other marine biology specialist institution and implement the same. The plan should safeguard the biodiversity of the channel as also the biodiversity impacts as a result of confluence with the sea.	CSIR-NIO had prepared "Environmental and Biodiversity Management Plan for Conservation of Marine Ecology due to the proposed Dry Dock Facility at Cochin Shipyard Ltd" and submitted on 21 March 2017. CSL will strictly follow the Marine Biodiversity management plan prepared by NIO.
ix	The ground water shall not be tapped within CRZ areas by the PP to meet with the water requirement in any case.	Ground water will not be extracted for any construction activity.
x	Well designed drainage system shall be provided to dewater the dock while excavation. As proposed, extracted water will be released in to the sea after necessary treatment. CGWB permission shall be obtained for dewatering the dock during construction.	**Complied.** A joint team of CGWB and Ground Water Department, Kerala inspected the site on 01 April 2017 and submitted their report to State Ground Water Authority, Kerala. Secretary, Water Resource Department, Kerala has issued 'No objection Certificate' for Construction of dry dock and dewatering vide letter No.GW1/296/2017-WRD dated 18 July 2017. Well designed drainage system will be provided to dewater the dock while excavation. Extracted water will be released in to the sea only after necessary treatment
xi	Shrouding shall be carried out in the work site enclosing the dock 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.	Project site boundary fenced with galvalume sheets up to 3.0 M height. Additional shrouding of height 10 M is being constructed in the north and east boundaries.
xii	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.	Will be implemented during operation of the dock as well as construction phase.

xiii	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 and incorporated in the Environmental Management Plan for its compliance.
xiv	The diesel generators (of capacity 250 KVA) shall be used as back-up power supply and shall be run only during power cuts. Low sulphur content fuel will be used for the generators and will be subjected to periodical maintenance and servicing. This will cut down on emission volume to a considerable extent. Also, the DG sets will be provided with mufflers for pollutant emission control.	Noted and incorporated in the Environmental Management Plan for its compliance.
xv	Necessary arrangements for the treatments 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.	Will be ensured by the proposed Contaminated Water Treatment Plant.
xvi	All measures shall be taken during the excavation activity as deemed necessary from the geotechnical investigation of the soil and ground water profile.	Noted and will be complied.
xvii	Construction activity related wastes (C & D waste) shall be disposed off as per Solid waste management rule, 2016.	Noted and incorporated in the Environmental Management Plan for its compliance.
xviii	All such solid and hazardous wastes including onboard wastes (while ships dock at the site) will be handled as per the Hazardous and other wastes (Management and Trans boundary Movement) Rules , 2016	Will be ensured during operation phase.
xix	Silt curtains shall be used to contain the spreading of suspended sediment during dredging within the dredging area.	Noted and incorporated in the Environmental Management Plan for its compliance.

xx	The dredging schedule shall be so planned that the turbidity developed is dispersed soon enough to prevent any stress on the fish population.	Will be ensured during operation phase. During construction phase, Construction of Cofferdam will facilitate excavation rather than dredging in the area of dock protruded to channel. CSL will strictly follow the Bio Diversity management plan for the project prepared by CSIR-NIO.
xxi	Earth protection work shall be carried out to avoid erosion of soil from the shore line / boundary line from the land area into the marine water body.	Quay walls will be constructed in the whole area of project site.
xxii	No ships docking at the proposed project site will discharge its on-board waste water untreated into the estuary/channel. All such waste water load will be diverted to the proposed Contaminated Water Treatment Plant of the project site.	Will be ensured by the proposed Contaminated Water Treatment Plant during operation phase.
xxiii	All effluent generated in the dry dock shall be drained into the proposed on site contaminated water treatment plant (CWTP) having capacity 500 KLD and equipped to treat the effluent into dischargeable standards. The oil water separator of the CWTP shall remove any unwanted oil and grease content from the effluent. The CWTP shall be equipped to treat such effluent including the bilge water and other ship discharger to meet the general standards for discharge of effluent in marine coastal areas before disposal into the channel. Ballast water from ships shall be stored at the facility and will be used in refilling of same before release of ships back into water. Sewage shall be treated in the STP.	Will be ensured by the proposed Contaminated Water Treatment Plant and sewage treatment plant
xxiv	Through the proposed project will not use TBT containing paints yet the ships docking for repair may have existing TBT paint layer. So blasting operations (surface cleaning) shall be extremely controlled and contained within the work site ensuring all accumulated solid waste and effluent are given standard treatments. The effluent / dock flow shall be drained to the CWTP while the solid/hazardous wastes shall be contained temporarily in the site and timely disposed of through the CTSDF.	Will be ensured by the proposed Contaminated Water Treatment Plant and collection system

xxv	Workers shall be strictly enforced to wear personal protective equipments like dust mask, ear muffs or ear plugs, whenever and whenever necessary/required. Special visco-elastic gloves will be used by labour exposed to hazards from vibrations.	CSL will ensure strict compliance. PPE's like safety helmets, safety harness, safety shoes, googles, dust mask, ear muffs or ear plugs as applicable are strictly enforced for workers during construction.
xxvi	In case of repair of any old vessels, excessive care shall be taken while handling asbestos and freon gas. Besides, fully enclosed covering should be provided for the temporary storage of asbestos material at site before disposal to CTSDF.	Will be ensured during operation phase. Storage facility shall be installed before commissioning of the dock.
xxvii	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 measure shall be implemented and monitored by the concerned officials to prevent the occurrence of untoward incidents/accidents.	Noted and incorporated in the Environmental Management Plan for its compliance.
xxviii	The commitments made during the Public Hearing and recorded in the minutes shall be complied with letter and spirit. A hard copy of the action taken shall be submitted to the Ministry.	Action being taken to fulfill the responses/ Commitments made during public hearing
xxviii.a	Unscientific Dredging activities in Ernakulam Channel by Naval Base, Vallarpardam Terminal and Cochin Shipyard Ltd. Results, Vembanad Lake near Thevara area filled with the alluvial soil which leads to the encroachment and decline of fish diversity	**Complied.** Fishing is prohibited in the Ernakulam Channel area near project site and there is no technical possibility that alluvial soil accumulation at Vembanad Lake due to the dredging activities by CSL, as depth of the backwater in the shipyard area is much more than that at Thevara area. Also CSL has conducted mathematical modelling for the sediment deposition and other necessary study for dredging activity at Ernakulam Channel. As per the CWPRS study , the new dry dock project does not introduce any changes in siltation/ deposition rate/water current strength at water front facilities nearby

xxviii.b	Construction of Public toilets outside Cochin Shipyard considering the number of labours	In line with public hearing, 3 toilets for public will be constructed as part of CSR activities.
xxviii.c	Widening of Old Thevara road by CSL	Feasibility of widening of old Thevara road will be explored. However beautification programme will be implemented in the applicable area of Old Thevara Road.
xxviii.d	Provision of parking facilities for employees	A receiving area is earmarked inside the project area, so as to avoid traffic issues in the approaching public road by providing 100 two wheelers parking and 10 Four wheelers parking.
xxviii.e	To be ensured of Greenbelt Development & septage disposal for the proposed project.	Work order for development of green belt has been awarded to Social Forestry Department, Kerala Government. Green belt development plan has been prepared in inline with EIA/EMP report, EC letter and conditions of CTE. Social forestry has commenced the planting of saplings at 3 locations in Ernakulam district for block planting of 1300 saplings .Planting of saplings in project boundary can be started only after the completion of civil works in that area. Septage waste will be collected by Contractor hired by CSL. Disposal of waste in surrounding areas shall be strictly prohibited.
xxviii.f	Provision of LNG facilities to the nearby residents if LNG pipe line is provided to the Cochin Shipyard Ltd	**Complied** CSL had clarified that they had not mentioned about the LNG pipeline in the Public Hearing presentation, it is regarding the building of LNG carrier. There will not be any provision of LNG pipeline in the proposed new dry dock project.
xxviii.g	Employment and more job opportunities to the fishermen community.	People from local area shall be employed as far as possible during construction phase.
xxviii.h	Primary need of employees like emergency preparedness plan in case of any accident, etc.	On-site emergency plan has been prepared by contractor for the safety of the working employees. Contractor has provided Ambulance facility and availability of duty nurse at project site. Contractor had provided required number of toilets at project site.
xxviii.i	To conduct scientific study for diverting the docking water to the canals/sewers in the city to	Dock water shall be treated in CWTP and discharge into nearby surface water after proper

	reduce the mosquito in the Corporation Area.	treatment with approved standards. It is not technically feasible to divert treated water line to the canals/sewers in the city for reduction of mosquitoes.
xxix	The project proponent shall take up and earmark adequate fund for socio-economic development and welfare measures as proposed under the CSR Programme. This shall be taken upon priority.	In line with public hearing, 3 toilets for public will be constructed as part of CSR activities.
xxx	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.	A separate Environmental Management Cell (EMC) is constituted for dealing with Environmental issues and for ensuring compliance with the environmental clearance conditions for Dry dock project. EMC has discussed and reviewed the control measures done by contractor in its meeting held on 31 Aug 2018
xxxi	The funds earmarked for environment management plan shall be included in the budget and this shall not be diverted for any other purposes.	Fund for EMP is included total project cost. CSL confirms that the budget as per EIA report will not be diverted for any other purposes.
xxxii	The proponent shall abide by all the commitments and recommendations made in the EIA/EMP report so also during their presentation to the EAC.	Contractor's EHS Plan and Environment Management Plan are prepared in line with EIA/EMP report, EC letter and conditions of CTE. CSL will ensure strict compliance.
xxxiii	Company shall prepare operating manual in respect of all activities. It shall cover all safety and environment related issues and system. Measure to be taken for protection. One set of environmental manual shall be made available at the project site. Awareness shall be created at each level of the management. All the schedules and results of environmental monitoring shall be available at the project site office.	Dry dock project is extension of existing facilities. All the activities are similar to the activities in existing docks. So the SOPs for existing facilities will be extended for the new dry dock.
xxxiv	Corporate Social Responsibility :	
xxxiv.a	The company shall have a well laid down Environment Policy approved by the Board of Directors.	**Complied.** CSL has certified for ISO 9001:2008, ISO14001:2004 and OHSAS 18001:2007.

xxxiv.b	The Environment Policy shall prescribe for standard operating process / procedures to bring into focus any infringements/ deviation/ violation of the environmental or forest norms/ conditions.	**Complied.** CSL is an ISO 14001:2004 certified Company. CSL procedure for Environmental Damage Incident reporting was submitted to MoEFCC vide CSL letter dated 09 Aug 2017.
xxxiv.c	The hierarchical system of Administrative order of the company to deal with environmental issues and for ensuring compliance with the environmental clearance conditions shall be furnished.	The organizational arrangement in CSL for the environmental management is included as para 1.9 of CSL EMS Common procedures. Copy of CSL EMS Common procedures was submitted to MoEFCC vide CSL letter dated 09 Aug 2017. A separate Environmental Management Cell (EMC) is constituted for dealing with Environmental issues and for ensuring compliance with the environmental clearance conditions.
xxxiv.d	To have proper checks and balances, the company shall have a well laid down system of reporting of non-compliances/violations of environmental norms to the Board of Directors of the company and /or shareholders or stakeholders at large.	Management Representative reports the performance of the environmental management system to the management for review during the management review meeting. CMD/Director (operations) reviews the performance of the environmental management system once every three months to ensure continuing suitability, adequacy and effectiveness of the system. Copy of Environmental Management System Apex manual was submitted to MoEFCC vide CSL letter dated 09 Aug 2017. The communication to and from external interested parties is maintained by the Occupier - Environment (protection) Act 1986.
B. GENERAL CONDITIONS		
i	Appropriate measures must be taken while undertaking digging activities to avoid any likely degradation of water quality	Noted and being complied with.
ii	Full support shall be extended to the officers of this Ministry / Regional Office at Bhopal 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 measures and other environmental protection activities.	Noted. CSL confirms full support to the offices of MoEFCC

iii	A Six-Monthly monitoring shall need to be submitted by the project proponents to the Regional Office of this Ministry at Bangalore regarding the implementation of the stipulated conditions.	Noted and being complied with.
iv	Ministry of Environment, Forest and Climate Change 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 compiled with.	CSL confirms full support to the offices of MoEFCC
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.	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, Forest and Climate Change.	Noted
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.	1. CCEA had approved the project in its meeting held on 20th July 2016. 2. Construction work commenced on 01 June 2018 and the same has been informed to MoEFCC and Regional office vide letter no. INFRA/ NDD/812/15 dated 22 June 2018.
viii	A copy of the clearance letter shall be marked to concerned Panchayat/ local NGO, if any, from whom any suggestion/ representation has been made received while processing the proposal.	**Complied.**
ix	A copy of the environmental clearance letter shall also be displayed of the website of the concerned State Pollution Control Board. The EC letter shall also be displayed at the Regional Office, District Industries centre and Collector's Office/ Tehsildar's office for 30 days.	**Complied**

Para.13	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 , the Public Liability (Insurance) Act,1991 and EIA Notification 1994, including the amendments and rules made thereafter.	Noted
Para.14	All other statutory clearances such as the approvals of 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** 1. Ministry of Defence had issued Clearance for the project on 20th Dec 2016. 2. F& B approval received for the project on 28 Oct 2016. 3. CSL is having Petroleum and Explosives Safety Organisation (PESO) license for operational yard. 4. Clearance from Chief control of explosives & Fire department will be taken by the contractor before commencing activities. 5. Forest Clearance not required as there is no forest land diversion as part of project. 6. Standing Committee of NBWL has recommended Dry Dock project for Wildlife clearance it its meeting held on 02 Mar 2017.
Para.15	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 State Pollution Control Board and may also be seen on the website of the Ministry of Environment, Forest and Climate Change at http://www.envfor.nic.in. The advertisement should be made within Seven 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 Bangalore.	**Complied** 1.Advertisement done on two leading dailies of the region namely Malayala Manorama and Mathrubhumi on 23 Nov 2016 2. Copy of the Advertisements was forwarded to the regional Office of the MoEFCC at Bangalore on 17 Dec 2016.
Para.16	The 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.	Noted

Para.17	Status of compliance to the various stipulated environmental conditions and environmental safeguards will be uploaded by the project proponent in its website.	**Complied**
Para.18	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.	Noted
Para.19	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**
Para.20	The proponent shall upload the status of compliance of the stipulated EC conditions, including results of the monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of the MoEFCC, the respective Zonal Office of CPCB and the SPCB.	Noted and will be complied.
Para.21	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 Environmental (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of EC conditions and shall also be sent to the respective Regional Office of MoEFCC by e-mail.	Dry dock project is extension of existing facilities. Environment Statement (Form-V) for Cochin Shipyard for the year 2017-2018 is attached

COCHIN SHIPYARD LIMITED * PROJECTS DEPARTMENT * INFRA PROJECTS * KOCHI-15

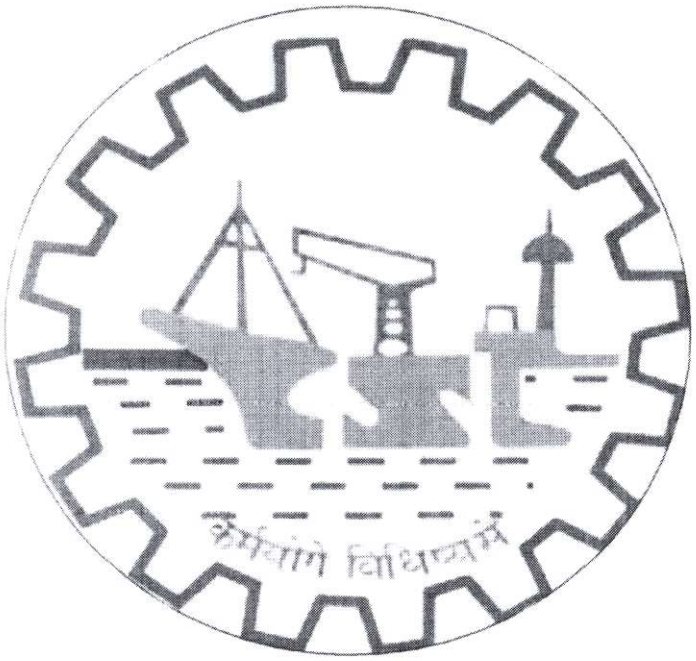
General Manager (Infra Projects)

Cochin Shipyard Limited

SIX MONTHLY ENVIRONMENTAL MONITORING REPORT FOR THE PERIOD JULY TO SEPTEMBER'2018

OF

M/S COCHIN SHIPYARD LIMITED
PERUMANOOR, P.O.-KOCHI,KERALA



Submitted by:-

ITL LABS PVT. LTD.
283,284, Mangolpuri Industrial
Area, Phase I, New Delhi-83

SIX MONTHLY ENVIRONMENTAL MONITROING REPORT OF M/S COCHIN SHIPYARD LIMITED

Name of Client :	COCHIN SHIPYARD LIMITED PERUMANOOR, P.O.- KOCHI, KERLA
Name of Contractor:	ITL LABS PVT LTD B-283,284,MANGOLPURI INDUSTRIAL AREA NEW DELHI-110083
WORK ORDER NO:	INFRA/NDD/87/2018 DATED 28/06/2018
NATURE OF JOB:	ENVIRONMENTAL MONITORING DURING THE CONSTRUCTION STAGE OF NEW DRY DOCK PROJECTS AT COCHIN SHIPYARD LIMITED.
DURATION OF PROJECT:	36 MONTHS

Prepared By: Mr.Basudev Singh (Dy.Technical Manager)	Approved By: L.N.Nayak (Technical Head, Environment Section)

ITL LABS PVT. LTD. DELHI Authorised Signatory

AMBIENT AIR QUALITY

Ambient air quality was monitored on the month of september'2018 on four location from which three are on construction site and one station was in surrounding residential area. The locations are.

1) Near Main gate
2) Near weigh Bridge
3) Near DG Set Area
4) Neighboring Residential area.

The samples were collected and analyzed as per guide lines of Ambient Air quality monitoring CPCB,2003. The Respirable dust sampler and fine particle samples equipment was placed at open space to collect the samples for the analysis of parameters such as PM_{10},$PM_{2.5}$, SO_2,NO_2 & CO.

The analysis results are mentioned below:

S.No	LOCATION→	MAIN GATE	NEAR WEIGH BRIDGE	NEAR DG SET AREA	RESIDENTIAL AREA	NAAQ LIMIT
	PARAMETERS					
1	Particulate Matter(PM_{10}),µg/m^3	48.3	51.6	38.6	36.2	100
2	Particulate Matter($PM_{2.5}$), µg/m^3	23.2	27.2	18.2	19.4	60
2	Sulphur Dioxide(SO_2), µg/m^3	5.8	6.4	5.2	3.8	80
4	Nitrogen Dioxide(NO_2) , µg/m^3	9.2	11.2	8.1	7.2	80
5	Carbon Monoxide(CO), mg/m^3	1.0	1.1	0.8	0.8	2.0

All the above parameters are within specified limit of National Ambient Air Quality (NAAQ) as per Environment protection act'1986. Due to continuous raining the overall the ambient air quality is good.

ITL LABS PVT LTD Authorised Signatory DELHI

Report Prepared by: ITL LABS PVT LTD, New Delhi

CHIEF MANAGER PROJECTS DEPARTMENT COCHIN SHIPYARD LIMITED

AMBIENT NOISE QUALITY

Ambient Noise was monitored on the month of August & September '2018 on three locations from which two are on construction site and one station was in surrounding residential area. The locations are

1) Near Main gate
2) Near Excavation Area
3) Neighboring Residential area.

The noise was recorded by automatic noise meter .From the data leq(day) & Leq(night) calculated.

The results are mentioned below:

S.No	LOCATION	SAMPLING PERIOD	Day Time		Night Time	
			Leq.	Limit.	Leq	Limit
1	**Main Gate**	August'2018	64.3	75	53.6	70
		September'2018	63.5	75	52.4	70
2	**Near Excavation area**	August'2018	67.3	75	62.1	70
		September'2018	66.3	75	61.2	70
3	**Residential area**	August'2018	53.7	55	43.5	45
		September'2018	52.9	55	43.8	45

AMBIENT NOISE STANDARDS AS PER THE NOISE POLLUTION (REGULATION AND CONTROL) RULES, 2000

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

The noise level of all locations are found within the permissible limit .

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GROUND WATER QUALITY

One water sample collected from each month from the bore well existed in the new dry docksite and the samples collected tested as per IS:10500

S.No.	Parameters	RESULT (July'18)	RESULT (Aug'18)	RESULT (Sept'18)	LIMIT AS PER IS:10500	Test Method
1	Colour, Hazen units	1.0	1.0	1.0	5.0	IS:3025 (Pt-4)-1983
2	Odour	Agreeable	Agreeable	Agreeable	Agreeable	IS:3025 (Pt-5)-1983
3	pH Value	6.9	7.1	7.1	6.5-8.5	IS:3025 (Pt-11)-1983
4	Turbidity, NTU	<1.0	<1.0	<1.0	1.0	IS:3025 (Pt-10)-1984
5	Total Dissolved solids, mg/l	274	254	283	500	IS:3025 (Pt-16)-1984
6	Calcium (as Ca), mg/l	36	32.6	41.0	75	IS:3025 (Pt-40)-1991
7	Magnesium (as Mg), mg/l	9.4	8.6	11.0	30	IS:3025 (Pt-46)-1994
8	Chloride (as Cl), mg/l	29.8	29.8	37.0	250	IS:3025 (Pt-32)-1988
9	Iron (as Fe), mg/l	0.06	0.08	0.04	0.3	IS:3025 (Pt-53)-2003
10	Sulphate (as SO4), mg/l	42	38.4	28.0	200	IS:3025 (Pt-24)-1986
11	Total Hardness (as $CaCO_3$), mg/l	129	117	136	200	IS:3025 (Pt-21)-2009
12	Total Alkalinity (as $CaCO_3$), mg/l	41	43	58	200	IS:3025 (Pt-23)-1986
13	Escherichia coli/100ml	Absent	Absent	Present	Should be absent	IS:1622:1981

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MARINE WATER QUALITY

S.No.	Parameters	Unit	Results July'18	Results Aug'18	Results Sept18	Detection limit	Test Method
1	Temperature	^0C	28.2	27.4	27.6	--	IS:3025 (Pt-9)-1984
2	Salinity	psu	1.2	1.0	3.2	0.1	IS:3025 (Pt-14)-2013
3	pH Value	--	7.12	7.08	7.21	--	IS:3025 (Pt-11)-1983
4	Conductivity	mS/cm	1.8	1.4	3.8	0.1	IS:3025 (Pt-14)-2013
5	Turbidity, NTU	NTU	5.0	7.0	4.0	1.0	IS:3025 (Pt-10)1984
6	Total Dissolved solids,	mg/l	1250	1027	2345	1.0	IS:3025 (Pt-16):1984
7	Dissolved Oxygen	mg/l	5.8	5.8	5.8	0.5	IS:3025 (Pt-38):1989
8	Nitrate nitrogen	µmol/l	6.5	5.8	8.6	0.1	IS:3025 (Pt-34):1988
9	Nitrite Nitrogen	µmol/l	0.15	0.15	0.34	0.05	IS:3025 (Pt-34):1988
10	Anionic detergents (as MBAS)	µg/l	BDL	BDL	BDL	0.1	IS:13428
11	Suspended Solid	mg/l	4.0	18.0	12	0.1	IS:3025 (Pt-17):1984
12	BOD	Mg/l	1.4	1.2	4.0	1.0	IS:3025 (Pt-44):1993
13	Silicate	mg/l	14.2	12.6	8.2	0.01	IS:3025 (Pt-35):1988
14	phosphate	mg/l	0.4	0.6	0.5	0.5	IS:3025 (Pt-31):1988
15	Total hardness as $CaCO_3$	mg/l	325	296	1067	0.5	IS:3025 (Pt-21)-2009
16	Calcium hardness as $CaCO_3$	mg/l	128	114	147	0.2	IS:3025 (Pt-40)-1991
17	Oil & Grease	mg/l	0.2	0.4	BDL	0.1	IS:3025 (Pt39):1991
18	Total Chromium (as Cr), mg/l	mg/l	0.68	0.53	0.42	0.003	IS:3025 (Pt-52):2003
19	Copper (as Cu), mg/l	mg/l	0.92	0.87	0.61	0.003	IS:3025 (Pt-42):1992
20	Manganese (as Mn), mg/l	mg/l	0.18	0.12	0.21	0.003	IS:3025 (Pt-59):2006
21	Zinc (as Zn), mg/l	mg/l	0.64	0.42	0.42	0.025	IS:3025 (Pt-52):2003
22	Iron (as Fe), mg/l	mg/l	9.6	7.8	6.1	0.05	IS:3025 (Pt-53):2003
23	Cadmium (as Cd), mg/l	mg/l	0.02	0.02	BDL	0.002	IS:3025 (Pt-52):2003
24	Nickel (as Ni)	mg/l	0.86	0.64	0.35	0.002	IS:3025 (Pt-52):2003
25	Cobalt(as Co)	mg/l	BDL	BDL	BDL	0.002	IS:3025 (Pt-2)
26	Lead (as Pb)	mg/l	0.16	0.12	0.22	0.002	IS:3025 (Pt-47):1994
27	Total Coliform/100ml	MPN/100ML	78000	56000	83500	1	IS:1622:1981
28	Faecal Coliform/100ml	MPN/100ML	5400	4100	5200	1	IS:1622:1981

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SEDIMENT QUALITY

The sediments samples collected once every monthly by grab sampler.

Sl.No.	Parameter	Units	Result (JULY'18)	Result (September'18)
1.	**Texture**			
	Gravel	%	2.2	1.8
	Sand	%	25.8	29.6
	Silt	%	18.4	21.4
	Clay	%	53.6	47.2
2	Nitrate Nitrogen	µmol/kg	*6.4*	3.8
3	Nitrite Nitrogen	µmol/kg	*0.16*	0.12
4	Phosphate	µmol/kg	*2.7*	0.8
5	Lead	Mg/kg	*10.8*	8.6
6	Zinc	mg/kg	*38.6*	19.5
7	Iron	mg/kg	*12008*	7621
8	Copper	mg/kg	*15.1*	8.2
9	Total organic carbon	%	*1.1*	0.8

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SOIL QUALITY

One soil samples collected from project site from 60 cm depth and it was analysed as per IS:2720. The details of result as follows.

Sl.No.	Parameter	Units	Result
1.	Texture	-	*Sandy clay*
2	pH	-	*7.02*
3	Particle Size	-	*Less than 2.0 mm*
4	Nitrogen	mg/100 gm	*1.15*
5	Potassium	mg/Kg	*128*
6	Moisture	%	*18.6*
7	Sulphates	mg/Kg	*81*
8	Organic Carbon	%	*0.72*
9	Chlorides (as Cl)	mg/Kg	*168*
10	Conductvity(20 % slurry)	µS/cm	*33.1*
11	Sodium(as Na)	mg/Kg	*134.2*
12	Sodium absorption Ratioo(SAR)	-	*0.82*
13	Calcium (as Ca)	mg/Kg	*1481*
14	Magnesium(as Mg)	mg/Kg	*37.8*

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PHYTOPLANKTON ANALYSIS

Sl.No.	Name of species	Quantity Present	Percentage(%)
1.	**Cyanophyceae**		
	a) Oscillatoria species	5	0.4
	b)Spirulina species	0	0.0
	c) Nostoc species	0	0.0
2.	BACILLARIOPHYCEAE		
	a)Asterionellopsis glacialis	0	0.0
	b)Ceratulina species	0	0.0
	c) Chaetoceros species	0	0.0
	d)Coscinodiscus species	886	76.7
	e)Cyclotell species	18	1.6
	f)Ditylum brightwelli	21	1.8
	g)Lauderia species	0	0.0
	h)Leptocylindrus species	10	0.9
	i)Navicula species	0	0.0
	j)Nitzschia	75	6.5
	k)Odontella	38	3.3
	l)Peudo –Nitzschia	11	1.0
	m)Pleurosigma species	61	5.3
	n)Rhizosolenia	2	0.2
	o)Surirella species	0	0.0
3	DINOPHYCEAE		
	a)Alexandrium	0	0.0
	b)Prorocentrum	6	0.5
	c) Pyrophacus	14	1.2
	d)Pyrocystic	2	0.2
	e) Ceratium	1	0.1
	f)Protoperidinum	0	0.0
4	CHLOROPHYCEAE		
	a)Pediastrum	1	0.1
5	DICTYOCHOPHYCEAE		
	a)Dictyocha	4	0.3
	TOTAL:	**1155**	**100**

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ZOO PLANKTON ANALYSIS

S.NO	NAME OF SPECIES	ABUNDANCE	PERCENTAGEOF TOTAL(%)
1	Calanoid copepod	92	37.2
2	Cycloid copepod	59	23.9
3	Cirripede Nauplii	1	0.4
4	Fish Egg	18	7.3
5	Fish Larva	12	4.9
6	Shrimp zoea	31	12.6
7	Gastropod veliger	0	0.0
8	Crab zoea	0	0.0
9	Lucifer Sp.	0	0.0
10	Codonellopsis sp.	0	0.0
11	Amphipod	0	0.0
12	Penilia avirostris	11	4.5
13	Crustacean Nauplii	15	6.1
14	Copepod Nauplii	8	3.2
15.	Planktonic polychaete	0	0.0
	TOTAL:	**247**	**100.0**

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BENTHOS ANALYSIS

S.NO	NAME OF SPECIES	ABUNDANCE	PERCENTAGEOF TOTAL(%)
A)	**MEIO BENTHOS**		
1	Nematodes	61	80.3
2	Poly chaetes	8	10.5
3	Ostracods	7	9.2
	TOTAL :	**76**	**100**
B)	**MICRO BENTHOS**		
1	Polychaetes	431	39.3
2	Crustaceans	397	36.2
3	Molluscs	32	2.9
4	Others	236	21.5
		1096	**100**

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SUMMARY

The monitoring was started from july'2018. This report is summarisation of report from July'18 to September'18 in which monsoon was included. Due to monsoon season and heavy flood at Kochi

The no of samples actual taken was not as per original schedule.

All the tested parameters of Ambient air within specified limit NAAQS. The noise level in all places is alsc within specified limit. All the other samples are normal and not found any major pollutants.

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ANNEXURE
ENVIRONMENTAL STATEMENT FORM – V
(See Rule 14)

Environmental Statement for financial year ending with 31st March 2018

PART A

i. *Name and address of the Owner / Occupier of the industry* : Sri. A N Neelakandhan , GM (Materials) & Occupier (Environment-Protection)

Operation or process : Deals with Ship Building and Ship Repair.

Surface preparation, Cutting, welding of plates. Applying marine painting. Maintenance of machinery, cranes, buildings and electrical installations in the yard.

Repair of marine vessels etc.

ii. *Industry Categorty Primary – (STC Code) Secondary – (STC Code)* : Ship Building and Ship Repair.

iii. *Production Category – Units* : Ships.

iv. *Year of Establishment.* : April 1972.

v. *Date of the last environmental statement Submitted* : 30.06.2017

PART – B

Water and Raw Material Consumption

i. *Water consumption in m^3 / d*

Process : 350 m^3 / d

Cooling : Not measurable.

Domestic : 1083 m^3 / d

Name of Products	Total Process water consumption	
	During the previous financial year	During the current financial year
Ship building. 1. Indigenous Air Craft Carrier (Construction in progress) 2.Technology Demonstration Vessel TDV SH020 (Construction in progress) 3. 500 PAX Vessels SH021-022 (2 Nos-Construction in progress) 4. 1200 PAX Vessels SH023-024 (2 Nos Construction in progress) AND Ship Repair. 66 vessels.	1,33,500 Litres (Approximately for Ship Building & Ship Repair)	1,27,750 m^3

Name of Raw Material*	Name of Products	Consumption of Raw Material.	
		During the previous financial year	During the current financial year
Steel (Plates and Pipes)	Ship building. 1. Indigenous Air Craft Carrier (Construction in progress) 2.Technology Demonstration Vessel TDV SH020 (Construction in progress) 3. 500 PAX Vessels SH021-022 (2 Nos-Construction in progress) 4. 1200 PAX Vessels SH023-024 (2 Nos Construction in progress) AND Ship Repair. 66 vessels.	Ship building. 5143 Ton Ship Repair. Steel - 1210 Ton	Ship building. 6725.6 Ton Ship Repair. Steel - 831.1 Ton

** Industry may use codes if disclosing details of raw material would violate contractual obligations; otherwise all industries have to name the raw material used.*

PART – C

Pollution discharged to environment / unit of output

(Parameters as mentioned in the consent issued)

Pollutants	Quantity of pollutants discharged (mass/day)	Concentration of Pollutants discharged	Percentage of variation From prescribed standards with reasons.
(a) Water	Total quantity discharged is 75 KL	PH : 6.53 S. S. : 12 mg/l BOD : 23 mg/l COD : 53.49 mg/l Oil &Grease: BDL. PH : 6.68 S. S. : 10 mg/l BOD : 21 mg/l COD : 48.57 mg/l Oil &Grease: BDL.	N/A
(b) Air	Particulate Matter : 15.30 Kg /day (Appx)	39.45%	60.55 % less than the standard limit.

PART – D

HAZARDOUS WASTE:

(As specified under Hazardous Waste (Management & Handling) Rules, 1989)

Hazardous Wastes	Total Quantity in (KL,L,Tonnes,Kg, Items)	
	During the previous financial year	During the current financial year
(a) <u>From Process</u> 1) Sludge 2) Used oil 3) Waste containing oil 4) Used copper slag 5) Battery Waste 6) E Waste	 Nil 618 M^3. 2.5 Tonnes. 2732 Tonnes. 566 Nos. 1358 Nos.	 Nil 388M3. 2.05 Tonnes. 4796 Tonnes. 159 Nos. 2131 Nos.
(b) <u>From pollution control facilities</u> 1) Paint Sludge.	5 M^3	10 M3

PART – E

SOLID WASTE:

Solid Wastes	Total Quantity (Kg)	
	During the previous financial year	During the current financial year
(a) From Process (b) Food Waste	3114.62 MT 980 Kg/day (Appx)	6244.83 MT 980 kg/day
(c) From pollution control facilities	.....	.....
(d) Quantity recycled or reutilized within the unit	980 Kg/day (Appx)	980 kg/day

PART – F

Please specify the characteristics (in terms of concentration and quantum) of hazardous as well as solid wastes, and indicate disposal practice adopted for both these categories of waste.

The hazardous wastes generated during the ship building and ship repair processes are as follows.

a) Sludge – Disposal through TSDF
b) Used / Spent oil – Recycling through authorized agencies.
c) Waste residues containing oil (Oil Soaked cotton waste) – Stored in concrete room.
d) Sludge from bath containing organic solvents (12.4).
(Used copper slag) – Disposal through TSDF
e) Paint Sludge. – Disposal through TSDF
f) Battery waste. – Disposal through MSTC
g) E-waste – Disposal through MSTC

The solid wastes are;
Wood, packing, tarpaulins, clothes, glows, helmets, shoes, cables, sweeping waste, garden waste, building construction waste, dock cleaning waste, iron dust, barrels, skid waste, weld slag etc.

Running annual contract for removal of these solid wastes.

Canteen waste: Disposing through piggeries.

PART – G

Impact of pollution control measures taken on conservation of natural resources and consequently on the cost of production.

Introduction of sullage treatment plants for workers canteen & employee's canteen helps to improve the quality of effluent discharged to backwaters.
Installation of Bio-gas plant for disposal and treatment of effluent from employees canteen & workers canteen helps to recycle the waste.
Disposal of hazardous waste through TSDF/authorized recyclers helps to reduce the land/water pollution due to above.
The increase in unit production cost is marginal.

PART – H

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

1) Common storage space for hazardous wastes at Ship-repair completed.
2) Provided STP at workers canteen & employees canteen.
3) Action taken for Installation of 300 KWp Solar Panel at roof top of Hull shop.
4) Running annual contract for monitoring of the stack emission.
5) Running annual contract for monitoring of ambient air quality and noise.
6) Running annual contract for monitoring effluent from sullage treatment plants.

PART – I

Any other particulars in respect of environmental protection and abatement of pollution.

1. Vide circular No. P&A/IR&W/MISC/07 dated 30 July 2007, usage of plastic items was banned inside the company with effect from 01 August 2007.
2. Consumption of paper has been reduced considerably with implementation of E Mail system for inter departmental communication.