EC COMPLIANCE REPORT

for the period: Apr 2021 – Sep 2021

INTERNATIONAL SHIP REPAIR FACILITY (ISRF) PROJECT AT COCHIN PORT PREMISES BY M/s COCHIN SHIPYARD LIMITED

A Govt. of India Enterprise
(A Mini Ratna Company Under The Ministry of Ports, Shipping and Waterways)
Perumanoor PO, Kochi , Kerala, India-682015

कोचीन शिपयार्ड लिमिटेड
(भारत सरकार की श्रेणी-1 मिनिरत्न कंपनी, पत्तन, पोत परिवहन और जलमार्ग मंत्रालय)

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

INFRA/ISRF/64/2017

22 Nov 2021

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 half yearly compliance report in connection with Environmental Clearance for the project "Augmentation existing ship repair facility at Cochin Port premises by Cochin Shipyard Limited."**

Ref: Environmental Clearance (EC) letter No.F.No11-65/2013-IA-III dated 22 June 2017.

Sir,

1. This has further reference to the Environmental Clearance for our project, viz., "Augmentation existing ship repair facility at Cochin Port premises by Cochin Shipyard Limited vide MoEFCC letter referred above.

2. As per the conditions stipulate in EC letter, Half yearly compliance report for the period April 2021 to Sept. 2021 & updated monitoring report-Proforma-1 are enclosed herewith..

Encl 1: Monitoring Proforma Part-1

2: Half yearly compliance report

Yours faithfully,

Harikrishnan S
General Manager (Materials)
Occupier – Environment (Protection) Act 1986

हरिकृष्णन एस/HARIKRISHNAN S
दखलकार-पर्यावरण(संरक्षण) अधिनियम 1986
Occupier-Environment(Protection) Act 1986
कोचीन शिपयार्ड लिमिटेड
Cochin Shipyard Ltd.
कोच्ची / Kochi- 15

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

GOVERNMENT OF INDIA

Ministry of Environment and Forests & Climate Change

(Regional Office, Southern Zone). Bangalore

MONITORING REPORT – PROFORMA – PART I

File No: Ref Letter No: Date:

1	Name of the project	Augmentation of Existing Ship Repair Facility at Cochin Port of District Ernakulam, Kerala by M/s Cochin Shipyard Ltd.
2	Clearance letter No. & date	Environmental Clearance (EC) letter no. F.No.11-65/2013-IA-III dated 22 June 2017.
3	Location : District & State / UT	Ernakulam, Kerala
4	Address for correspondence:	Shri. Harikrishnan S Occupier-Environment (Protection) Act 1986 Cochin Shipyard Limited, Perumanoor P O ,Kochi-682015 Ph: +91 484 2501360 Fax: +91 484 2370897 Email: harikrishnan.s@cochinshipyard.in
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.in
6	Mobile No. of concerned officials associated with monitoring	Shri. Siyad M A Assistant General Manager (Infra Projects-Mech) Infra Projects Department Cochin Shipyard Limited, Mob: +91 9995804298 Email: siyad.ma@cochinshipyard.in
7	a) Project cost as originally planned and subsequent revised estimates and the years of price reference	Cost Estimate as per DPR - Rs. 970 Crs, year 2015
	b) Allocations made for environmental management plans, with item wise and year wise breakup	• Compensatory mangrove afforestation: Rs. 12 lakhs (approx.). • ETP & STP: Rs. 137 lakhs • Environmental monitoring during the construction stage of ISRF project: Rs. 24.91 Lakhs
8	a) Actual expenditure incurred on the project so far	Rs. 582.74 crores as on 30 Sept 2021
	b) Actual expenditure incurred on the environmental management plans so far	Actions are being taken to incur the expenditure earmarked for EMP, which will happen along with the construction works progressing at the site. CSL had remitted an amount of Rs.12 Lakhs to Kerala Forest Dept. for carrying out mangrove afforestation at Chettuva in Thrissur District. An expenditure of Rs. 18,48,588/- has been

		incurred to carry out Environmental monitoring up to Sept 2021.
9	Date of commencement (actual and/or planned)	Actual: 03 March 2018
10	Date of completion (actual and/or planned)	Planned: 10 July 2023
11	Validity of CFO	Consent to Establish renewed by Kerala State Pollution Control Board (KSPCB) (PCB/HO/EKM-1/ICE-R/13/2018 dated 05 Nov 2018) and its validity is up to 31 May 2023.
12	Reasons for the delay if the project is yet to start	NA
13	Present status of the project:	Environmental Clearance for the ISRF project was issued on 22 June 2017 subject to obtaining prior clearance from National Board for Wildlife (NBWL). Standing Committee of NBWL in its meeting held on 08 Dec 2017 had deliberated and recommended for the NBWL clearance of ISRF project. Subsequent to the release of minutes of meeting dated 09 Jan 2018, construction activities commenced at the project site on 03 March 2018. M/s Simplex Infrastructures Limited., Kolkata (SIL) is entrusted as the contractor for carrying out the construction works. Work is presently progressing at the site. As on 30 Sept 2021, physical progress of the project is 77 %.
14	E-mail ID of the contact person to whom communications to be sent	harikrishnan.s@cochinshipyard.in with copy to: 1) eldho.john@cochinshipyard.in 2) siyad.ma@cochinshipyard.in
15	FAX Number	+91 484 2370897

Signature of authorized signatory with company seal

एल्दो जॉण
ELDHO JOHN
महा प्रबंधक
General Manager
कोचीन शिपयार्ड लिमिटेड
Cochin Shipyard Ltd.
कोच्ची / Kochi-682 015

ENCL: 2

EC COMPLIANCE STATUS		
Sl No.	**CONDITION**	**COMPLIANCE STATUS**
A. SPECIFIC CONDITIONS:		
i	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 Costal Regulation Zone area.	Cochin Shipyard Limited (CSL) ensures that no construction work other than those mentioned in approved layout will be carried out.
ii	All the conditions stipulated by MoEF&CC, Regional Office (Southern Zone) vide letter No. 4-KLB1112/2017-BAN/197 dated 7th June, 2017 shall be complied with.	Being complied with. Compliance Report submitted online in MoEFCC portal on 31 Oct 2017.
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 the National Board of Wildlife in its 46th meeting held on 08 Dec 2017 had recommended for the NBWL clearance of ISRF project. Minutes of the meeting is published in MoEFCC website on 09 Jan 2018.
iv	All the recommendations and conditions specified by Kerala Coastal Zone Management Authority shall be complied with.	Clause wise compliance of the recommendations and conditions specified by Kerala Coastal Zone Management Authority (KCZMA) is mentioned separately at page no. 9.
v	As proposed, PP shall carry out mangroves plantation in 2 ha. land and maintain.	CSL in association with Kerala Forest Dept had identified 'Chettuva' region in Thrissur Dist, Kerala to carry out compensatory mangrove afforestation. CSL is in receipt of detailed project report prepared by Kerala Forest Dept. Accordingly, CSL had remitted an amount of Rs.12 Lakhs for carrying out mangrove afforestation at Chettuva.
vi	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.	**Complied.** M/s DHI, Denmark was entrusted to carry out the hydrodynamic modeling study in connection with the ISRF project. The results of the study reveal that the proposed ISRF project does not indicate considerable influence on water levels and water availability outside of the shipyard area. No creeks or rivers are blocked due to this project.
vii	Shoreline should not be disturbed due to dumping. Periodical study on shore	International Ship Repair Facility (ISRF) project does not have any reclamation. In addition, shore

COCHIN SHIPYARD LIMITED * INFRA PROJECTS DEPARTMENT * KOCHI-15

	line changes shall be conducted and mitigation carried out, if necessary. The details shall be submitted along with the six monthly monitoring report.	is already protected with retaining walls. During the course of construction, retaining walls will not be disturbed. Hence shoreline change is not envisaged. Dredged material will be disposed off at the two offshore dumping sites maintained by Cochin Port Trust, which are North (10° 00"N, 76° 05"E) and South (9° 55"N, 76° 06"E) Dumping Grounds. The dumping sites are located at a distance of about 21 km away from the project site. Dredging activities in connection with the ISRF project had commenced and approximately 6.48 lakhs cum dredged material is disposed as on 30 Sept 2021.
viii	The ground water shall not be tapped within the CRZ areas by the PP to meet with the water requirement in any case.	**Complied.** Water requirement for the construction activities is being arranged from outside agencies in tankers. Hence ground water extraction is not carried out.
ix	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.	**Complied.** Secretary, Water Resource Department, Kerala has issued No Objection Certificate for the ISRF project vide letter No.GW1/296/2017-WRD dated 18 July 2017.
x	A detailed marine diversity conservation management plan based on possible environmental impacts shall be drawn up and implemented as suggested by the National Institute of Oceanography (NIO) or any other institute on marine ecology. The plan should include the management of marine and intertidal biotopes, corals and coral communities, sea grasses and sea weeds, subtidal habitats, fishes, other marine flora and fauna (Micro, macro and mega) including turtles, birds and marine mammals as also productivity.	**Complied.** CSIR-NIO was entrusted for the preparation of "Detailed marine diversity conservation management plan" in connection with the ISRF project on 16 Feb 2017. The recommendations of Marine Biodiversity management plan prepared by CSIR-NIO are strictly being followed during the construction phase.
xi	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	Temporary shrouding by the way of moving sheds will be provided during the operation stage to contain the dust, if any generated from the work stations.

	restricting disturbance from wind in affecting the dry dock operations, preventing waste dispersion, improving working conditions through provision of shade for the workers.	
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 complied during operation phase of the ISRF project.
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.	Will be complied during operation phase of the ISRF project.
xiv	The diesel generators 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.	**Complied.** ISRF project facility is equipped with 2 nos. of 500 KVA DG sets, which are used as a backup source of power supply. Low sulphur content fuel is being used in these DG sets. Regular maintenance and servicing are also carried out at regular intervals. DG sets are provided with mufflers and also comply with latest emission norms.
xv	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.	The oily wastewater generated from workstations due to ship washing will be collected through covered drains and treated in ETP before discharge. The treated water will be used for gardening / horticulture. In rainy season, the treated water will be let out to channel along with storm water. The wastewater from toilets, bathrooms and areas in the operational building will be treated in STP.
xvi	All measures shall be taken during the excavation activity as deemed necessary from the geotechnical investigation of the soil and ground water profile.	**Complied.** Geotechnical investigation was carried out at the land side and marine side before the commencement of construction activities. Excavation activity at the project site is mainly the boring operation carried out in connection with the casting of piles. Results of the Geotechnical

		investigation are duly taken care while carrying out the boring operation.
xvii	Construction activity related wastes (C & D waste) shall be disposed off as per Solid Waste Management Rule, 2016.	**Complied.** C& D waste generated from the project site is being disposed as per the Solid Waste Management Rule, 2016.
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 Waste (Management & Trans-boundary Movement) Rule, 2016.	Will be complied during operation phase.
xix	Silt curtains shall be used to contain the spreading of suspended sediment during dredging within the dredging area.	**Complied.** Dredging activities at ISRF project marine area was commenced in the month of July 2018 and the same is under progress. Silt curtains are being used to contain the spreading suspended sediments during dredging.
xx	The dredging schedule shall be so planned that the turbidity developed is dispersed soon enough to prevent any stress on the fish population.	**Complied.** Dredging activities at ISRF project marine area commenced in the month of July 2018 and the same is under progress. Dredging is done in line with "Detailed marine diversity conservation management plan" prepared by CSIR-NIO for the project.
xxi	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.	Shore is already protected with retaining walls. During the course of construction, retaining walls will not be disturbed. New construction will be resting on piles.
xxii	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.	On-board waste water, if any from the docked ships will not be discharged directly on land or to water body without appropriate treatment. The same will be treated in ETP before discharge.
xxiii	All effluent generated in the existing and proposed ship repairing centre shall be drained in to the ETP having capacity 300 KLD and equipped to treat the effluent into dischargeable standards. The oil-water operator of the ETP shall remove any unwanted oil & grease content from the effluent. The ETP shall be equipped to treat	Will be ensured by the installation of the proposed ETP.

	such effluent including the bilge water and other ship discharges to meet the general standards for discharge of effluent in marine coastal areas before disposal in to 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.	
xxiv	Workers shall be strictly enforced to wear personal protective equipments like dust mask, ear muffs or ear plugs, whenever necessary/required. Special visco-elastic gloves will be used by labour exposed to hazards from vibration.	PPE's like safety helmets, safety harness, safety shoes, goggles, dust mask, ear muffs or ear plugs, as applicable are strictly enforced for the workers during construction. Special visco-elastic gloves are also being used by labourers exposed to hazards from vibration.
xxv	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 material at site before disposal to CTSDF.	Will be complied during operation phase. In addition, CSL has an MOU in force with M/s Kerala Enviro Infrastructure Ltd. (KEIL), the only designated hazardous waste disposal center in Kerala for the disposal of C&D and asbestos sheet waste, which will be generated at the project site during demolition of existing buildings.
xxvi	Safety training shall be given to all workers specific to their work area and every worker and employee will be engaged in fire hazard awareness training and mock drills which will be conducted regularly. All standard safety and occupational hazard measures shall be implemented and monitored by the concerned officials to prevent the occurrence of untoward incidents/accidents.	Safety induction training covering fire hazard awareness is imparted to all workforce of the contractor. In addition, job specific safety training is also given. All standard safety and occupational hazard measures are implemented at the project site. In addition, audits / site inspections are regularly carried out to ensure compliance of the safety standards to prevent the occurrence of untoward incidents/accidents.
xxvii	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.	Public Hearing meeting was held on 24 March 2015. All participants, who had spoken during the meeting, had appreciated the project. No issues were raised from any of the members present during the public hearing and hence no specific commitments were given from the side of CSL.
B. GENERAL CONDITIONS:		
i	Appropriate measures must be taken while undertaking digging activities to	Noted and being complied with.

	avoid any likely degradation of water quality.	
(i)	Full support shall be extended to the officers of this Ministry / Regional Office at ~~Bhubaneswar~~ Bangalore 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 officers of MoEFCC in connection with the ISRF project.
(ii)	A six-Monthly monitoring report shall need to be submitted by the project proponents to the Regional Office of this Ministry at ~~Bhubaneswar~~ Bangalore regarding the implementation of the stipulated conditions.	Noted and being complied with.
(iii)	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 complied with.	Noted.
(iv)	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.
(v)	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.
(vi)	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.	➢ Subsequent to the deliberation in Public Investment Board meeting held on 09 March 2016, approval for the ISRF project was accorded on 19 May 2016. ➢ Construction work commenced on 03 March 2018.
(vii)	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.** Copy of the EC letter handed over to Secretary, Kochi Corporation on 27 June 2017.
(viii)	A copy of this clearance letter shall also be displayed on the website of the	**Complied.** ➢ Copy of EC letter send by speed post to

	concerned State Pollution control Board. The Clearance letter shall also be displayed at the Regional Office, District Industries centre and Collector's Office/ Tehsildar's office for 30 days.	Chairman, Kerala State Pollution Control Board (KSPCB) on 27 June 2017. ➢ Copies of EC letter also handed over to District Industries Centre, District Collector's Office and Regional office of KSPCB on 27 June 2017.
C. OTHER CONDITIONS IN ENVIRONMENTAL CLEARANCE COMPLIANCE LETTER:		
1.	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.	Noted for applicable compliances.
2.	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.** ➢ CSL had advertised in two leading dailies in vernacular language viz. Malayala Manorama and Mathrubhumi on 02 July 2017. ➢ Copy of the advertisement was forwarded to MoEFCC, Regional Office, Bangalore vide our letter dated INFRA/ISRF/64/2017 dated 05 July 2017.
3.	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.	Noted.
4.	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.

COCHIN SHIPYARD LIMITED * DEPARTMENT * INFRA PROJECTS * KOCHI

5.	Status of compliance to the various stipulated environmental conditions and environmental safeguards will be uploaded by the project proponent in its website.	Noted.
6.	A copy of the clearance letter shall be sent by the proponent to concerned Panchayat, Zilla Parisad/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.** ➢ Copy of EC letter forwarded to Secretary, Kochi Corporation on 23 June 2017. ➢ EC letter is also published in CSL website.
7.	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&CC, the respective Zonal Office of CPCB and the SPCB.	Noted. Environmental monitoring is being carried out by M/s Nitya Laboratories, J&K at ISRF project site. Report showing data of monitoring results has been prepared and submitted by monitoring agency M/s Nitya Laboratories and the same is attached herewith as **Annexure:1** of **encl:2**.Monitoring results are also published in CSL website.
8.	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&CC, the respective Zonal Office of CPCB and the SPCB.	Noted.
9.	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&CC by e-mail.	ISRF project is an extension of existing dry dock facilities at ISRF-CSL. Latest environmental statement (Form-V) for ISRF-CSL is placed as **Annexure-2** of **encl: 2.**

10	The above 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.

D. **KCZMA Recommendations**

S. No.	KCZMA Recommendation	Compliance Status
1.	The debris and waste generated from dredging and during the phase of demolition and construction should not be dumped into the CRZ area and wetlands.	• The dredged material from the project site is being disposed off at the two identified dumping ground locations of Cochin Port Trust (CoPT) in the outer sea about 21km away from the project site. • Dumping of construction and demolition (C&D) waste into CRZ area and wetlands is strictly prohibited and is being disposed in line with the C&D waste management rules 2016.
2.	Species wise mangrove identification may be done and bio-diversity register shall be maintained. The compensatory species wise mangrove afforestation in patch areas used for developmental works should be given top priority and the progress report shall be submitted to KCZMA before initiating developmental works.	• There is no mangrove forest except two small isolated mangrove patches in the project area having spread area 92.8 sq. M & 93.8 sq. M. These mangroves (15 nos. plants in total) may have grown due to the sediment deposit near to the slipway area where quay wall is not present. These mangroves belonging to Acanthus ilicifolius and Rhizophora Species, are felled for the project. • As a compensatory measure insisted by MoEFCC, CSL is in the process of carrying out 2 ha mangrove afforestation at Chettuva, Thrissur in association with Kerala Forest Dept., Govt. of Kerala. CSL has remitted Rs.12 Lakhs in connection with this and mangrove afforestation activities at Chettuva will commence soon. The matter was already informed to Kerala Coastal Zone Management Authority (KCZMA).
3.	Storing of hazardous materials during	Being complied with.

	the construction and operation phase, if any, need to be done as per relevant rules and regulations.	Hazardous materials are not allowed to be disposed to marine water, wetland or CRZ area. In addition, CSL is having tie-up with CTSDF viz. M/s Kerala Enviro Infrastructure Ltd. (KEIL), Cochin for the disposal of Hazardous waste.
4.	All the provisions of CRZ notifications of 1991/2011, local town and country plan regulations for construction should be strictly followed during the implementation of the project.	Being complied with.
5.	Necessary environmental regulations and port/shipping regulations also shall be followed.	The project is being implemented as per the necessary environmental regulations and port/shipping regulations. CSL is working in compliance with International Ship and Port Facility Security (ISPS) code.
6.	Proper monitoring plan may be put in place to safeguard the environment.	Monitoring plan during the construction phase has been formulated and M/s SV Envirolabs & Consultants, Visakhapatnam is entrusted with the job of carrying out environmental monitoring on 07 May 2018. On completion of their contract M/s Nitya Laboratories, J&K is entrusted with the job for carrying out environmental monitoring.

General Manager (Infra Projects)

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ELDHO JOHN
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Cochin Shipyard Ltd.
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ANNEXURE-1 OF ENCL!2

REPORT OF ENVIRONMENTAL MONITORING DURING THE CONSTRUCTION STAGE OF ISRF PROJECT

(APRIL 2021)

1 INTRODUCTION

International Ship Repair Facility (ISRF) is a prestigious project of Cochin Shipyard Limited (CSL) which is being developed at the leased out land of Cochin Port Trust at Willingdon Island, Cochin. The proposed facility consists of a ship lift, work stations and afloat jetties for carrying out repair works of vessels having size 130 m LOA x 25 m beam.

CSL has engaged **M/s. SV Enviro Labs & Consultants**,an accredited consultant by NABL and NABET, GoI, MoEFCC to carry out the Environmental monitoring studies during the construction stage of ISRF project as per the norms.

This report covers the monitored environmental data for the period of April-2021

2 LOCATION OF THE PROJECT

The Project site is located in the eastern side of Mattancherry channel, Willingdon Island in Thoppumpady Village, Kochi Tehsil of Ernakulum District in the state of Kerala.

The geographic location of the ISRF is (Google earth, 2014):

Geographic longitude (east)	**76°16'3.22" E**
Geographic latitude (north)	**9°56'37.64" N**

3 ENVIRONMENTAL MONITORING REPORT DURING APRIL 2021

Environmental monitoring data has been compiled and is furnished below.

01. AMBIENT AIR QUALITY MONITORING

Summary of Analysis of Ambient Air Quality for the period of April21

	PM10 (µg/m³)				PM2.5 (µg/m³)				SO2 (µg/m³)				NOX (µg/m³)				CO (mg/m³)			
Monitoring Station	No. of samples	Maximum	Minimum	Mean	No.of samples	Maximum	Minimum	Mean	No. of samples	Maximum	Minimum	Mean	No. of samples	Maximum	Minimum	Mean	No. of samples	Maximum	Minimum	Mean
A1	6	73.6	62.1	67.5	6	33.3	28.1	30.6	6	13.5	11.4	12.4	6	16.2	13.7	14.9	6	0.27	0.23	0.25
A2	6	59.1	55.7	57.4	6	26.7	25.2	26.0	6	9.8	9.2	9.5	6	13.0	12.3	12.7	6	<0.05	<0.05	<0.05
A3	6	56.7	51.9	54.4	6	25.7	23.5	24.6	6	8.9	8.2	8.6	6	10.4	9.6	10.0	6	<0.05	<0.05	<0.05
NAAQS Standards	100				60				80				80				4			
Method followed	IS:5182 (P-23) Gravimetric				40 CFR USEPA Gravimetric				IS:5182 (P-2)- West and Gaeke Method				IS:5182(P-6) - Jacob & Hochheiser Method				IS:5182 (P-10) NDIR Spectroscopy			

DETAILS OF AMBIENT AIR QUALITY MONITORING LOCATIONS

Station code	Location	Geographical location	Environmental setting
A1	Project Site	9°56'43.85" N, 76°16'5.78" E	Industrial
A2	IMU Campus	9°56'37.59" N, 76°15'6.06" E	Commercial
A3	Fort Kochi	9°57'50.85" N, 76°14'38.11" E	Residential

02. AMBIENT NOISE QUALITY

NOISE LEVELS AT SECURITY GATE
(Geo. Location: 9°56'42.7"N, 76°16'06.2" E)

S.No	Date of collection	Leq(day) dB(A)	Leq(Night) dB(A)	L_{10}	L_{50}	L_{90}
1.	15.04.2021	69.1	60.5	65.2	62.9	60.2
Standards		**75**	**70**	-	-	-

NOISE LEVELS AT NORTH WEST BOUNDARY OF PROJECT SITE
(Geo. Location: 9°56'37.6"N, 76°16'01.4" E)

S.No	Date of collection	Leq(day) dB(A)	Leq(Night) dB(A)	L_{10}	L_{50}	L_{90}
1.	15.04.2021	69.8	60.8	66.8	63.5	60.5
Standards		**75**	**70**	-	-	-

NOISE LEVELS AT CENTRE OF PROJECT SITE
(Geo. Location: 9°56'32.7"N, 76°16'03.0" E)

S.No	Date of collection	Leq(day) dB(A)	Leq(Night) dB(A)	L_{10}	L_{50}	L_{90}
1.	15.04.2021	66.4	59.2	60.7	58.0	54.7
Standards		**75**	**70**	-	-	-

NOISE LEVELS ATSOUTH WEST BOUNDARY OF PROJECT SITE
(Geo. Location: 9°56'29.1"N, 76°16'01.3" E)

S.No	Date of collection	Leq(day) dB(A)	Leq(Night) dB(A)	L_{10}	L_{50}	L_{90}
1.	15.04.2021	70.6	63.6	68.0	65.3	62.3
Standards		**75**	**70**	-	-	-

03. MARINE WATER QUALITY

Date of Sampling: 12.04.2021 – HIGH TIDE

S.No	Parameter	Units	Class SW-IV (For Harbour Waters)	Upstream	Project site-1	Project site-2	Downstream
1.	pH	-	6.0 – 9.0	7.66	7.61	7.69	7.78
2.	Temperature	°C	-	29.2	29.4	29.3	29.6
3.	Salinity	ppt	-	18.6	19.3	19.2	19.6
4.	TDS	mg/l	-	21389	24123	22069	22784
5.	TSS	mg/l	-	27	32	29	33
6.	DO	mg/l	3.0 min	6.0	5.8	5.8	5.6
7.	BOD	mg/l	5.0 max	4.4	4.3	4.2	4.6
8.	Total Hardness	mg/l	-	2995	3572	3870	3954
9.	Total Alkalinity	mg/l	-	92	84	86	99
10.	Chlorides as Cl	mg/l	-	10324	10726	10674	10895
11.	Turbidity	NTU	-	5.4	5.3	5.5	5.7
12.	Conductivity	µmhos/cm	-	35648	37112	35480	36165
13.	Oil and Grease	mg/l	10 mg/l	2.8	3.6	3.3	3.7
14.	Heavy Metals						
	Arsenic	mg/l	-	<0.01	<0.01	<0.01	<0.01
	Lead	mg/l	-	0.028	0.025	0.027	0.030
	Cadmium	mg/l	-	<0.001	<0.001	<0.001	<0.001
	Chromium	mg/l	-	<0.01	<0.01	<0.01	<0.01
	Mercury	mg/l	-	<0.001	<0.001	<0.001	<0.001
	Zinc	mg/l	-	0.0049	0.0055	0.0058	0.0062
	Selenium	mg/l	-	<0.01	<0.01	<0.01	<0.01

Date of Sampling: 12.04.2021 – LOW TIDE

S.No	Parameter	Units	Class SW-IV (For Harbour Waters)	Upstream	Project site-1	Project site-2	Downstream
1.	pH	-	6.0 – 9.0	7.77	7.72	7.74	7.81
2.	Temperature	°C	-	28.8	28.9	29.0	29.2
3.	Salinity	ppt	-	23.4	25.4	25.8	27.0
4.	TDS	mg/l	-	25423	27116	25692	26880
5.	TSS	mg/l	-	36	40	38	46
6.	DO	mg/l	3.0 min	6.3	6.1	6.0	5.9
7.	BOD	mg/l	5.0 max	3.6	4.1	3.9	4.2
8.	Total Hardness	mg/l	-	3626	4428	4529	4785
9.	Total Alkalinity	mg/l	-	110	98	101	107
10.	Chlorides as Cl	mg/l	-	12998	14073	14290	14996
11.	Turbidity	NTU	-	14.2	14.6	13.9	15.5
12.	Conductivity	µmhos/cm	-	40353	43735	42118	42666
13.	Oil and Grease	mg/l	10 mg/l	2.5	3.4	3.1	3.4
14.	Heavy Metals						
	Arsenic	mg/l	-	<0.01	<0.01	<0.01	<0.01
	Lead	mg/l	-	0.031	0.027	0.029	0.033
	Cadmium	mg/l	-	<0.001	<0.001	<0.001	<0.001
	Chromium	mg/l	-	<0.01	<0.01	<0.01	<0.01
	Mercury	mg/l	-	<0.001	<0.001	<0.001	<0.001
	Zinc	mg/l	-	0.0053	0.0058	0.0060	0.0066
	Selenium	mg/l	-	<0.01	<0.01	<0.01	<0.01

04. MARINE SEDIMENT

Date of Sampling: 12.04.2021

S.No	Parameter	Units	Upstream	Project site-1	Project site-2	Downstream
1.	Organic Carbon	%	2.11	2.42	2.39	2.15
2.	Organic Nitrogen	%	0.019	0.039	0.043	0.027
3.	Heavy Metals					
	Iron	µg/gm	1389	1610	1726	1428
	Zinc	µg/gm	0.0003	0.0004	0.0005	0.0002
	Lead	µg/gm	0.004	0.005	0.003	0.004
	Mercury	µg/gm	<0.001	<0.001	<0.001	<0.001
	Arsenic	µg/gm	2.82	2.89	2.93	2.88

05. MARINE BIOLOGY

Date of Sampling: 12.04.2021

S.No	Parameter	Units	Upstream	Downstream
1.	Phytoplankton			
	Biomass	ml/m^3	2.11	2.74
	Diversity	-	0.420	0.485
	Major Species	-	Coscinodiscus Sp.	Coscinodiscus Sp.
2.	Zooplankton			
	Biomass	ml/m^3	0.020	0.035
	Diversity	-	0.952	1.096
	Major Species	-	Calanoid Sp.	Calanoid Sp.
3.	Benthic Communities			
	Meiofauna			
	Total Count	No./10cm	5	6
	Major Species		*Terschellingia longicaudata*	*Pseudochromadora casca*
	Macrofauna			
	Total Count	No./10cm	4	4
	Major Species		Heteromastus bifidus	Paraheteromastus tenuis

REPORT OF ENVIRONMENTAL MONITORING DURING THE CONSTRUCTION STAGE OF ISRF PROJECT

(APRIL 2021 - SEP 2021)

1 INTRODUCTION

International Ship Repair Facility (ISRF) is a prestigious project of Cochin Shipyard Limited (CSL) which is being developed at the leased out land of Cochin Port Trust at Willingdon Island, Cochin. The proposed facility consists of a ship lift, work stations and afloat jetties for carrying out repair works of vessels having size 130 m LOA x 25 m beam.

CSL has engaged **M/s. Nitya Laboratories**, an accredited consultant by NABL and GoI, MoEFCC to carry out the Environmental monitoring studies during the construction stage of ISRF project as per the norms.

This report covers the monitored environmental data for the period of April 2021 to September 2021.

2 LOCATION OF THE PROJECT

The Project site is located in the eastern side of Mattancherry channel, Willingdon Island in Thoppumpady Village, Kochi Tehsil of Ernakulum District in the state of Kerala.

The geographic location of the ISRF is (Google earth, 2014):

Geographic longitude (east)	**76°16'3.22" E**
Geographic latitude (north)	**9°56'37.64" N**

3 ENVIRONMENTAL MONITORING REPORT DURING APRIL 2021 - SEP 2021

Environmental monitoring data for the six months has been compiled and is furnished below.

01. AMBIENT AIR QUALITY MONITORING

Summary of Analysis of Ambient Air Quality for the period of April'21 – Sept.'21

	PM10 (µg/m³)				PM2.5 (µg/m³)				SO_2 (µg/m³)				NO_x (µg/m³)				CO (mg/m³)			
Monitoring Station	No. of samples	Maximum	Minimum	Mean	No. of samples	Maximum	Minimum	Mean	No. of samples	Maximum	Minimum	Mean	No. of samples	Maximum	Minimum	Mean	No. of samples	Maximum	Minimum	Mean
A1	9	73.79	61.27	67.23	9	39.25	30.14	34.60	9	14.2	10.21	11.73	9	18.48	12.72	15.72	9	1.26	1.04	1.16
A2	2	62.27	59.16	60.72	2	29.48	26.25	27.87	2	12.25	10.49	11.37	2	12.21	11.39	11.80	2	BDL (LOQ-0.1)	BDL (LOQ-0.1)	BDL (LOQ-0.1)
A3	9	64.27	53.29	57.82	9	29.37	23.18	25.79	9	12.19	7.24	12.49	9	16.36	9.23	12.49	9	BDL (LOQ-0.1)	BDL (LOQ-0.1)	BDL (LOQ-0.1)
NAAQS Standards	100				60				80				80				4			
Method followed	IS:5182 (P-23) Gravimetric				40CFR Appendix L Part 53 CPCB Guidelines				IS:5182 (P-2)				IS:5182 (P-6)				IS:5182 (P-10)			

DETAILS OF AMBIENT AIR QUALITY MONITORING LOCATIONS

Station code	Location	Geographical location	Environmental setting
A1	Project Site	9°56'43.85" N, 76°16'5.78" E	Industrial
A2	IMU Campus	9°56'37.59" N, 76°15'6.06" E	Commercial
A3	Fort Kochi	9°57'50.85" N, 76°14'38.11" E	Residential

NITYA LABORATORIES AUTHORISED

02. AMBIENT NOISE QUALITY

NOISE LEVELS AT SECURITY GATE

(Geo. Location: 9°56'2.96"N, 76°16'1.16" E)

Sr. No	Date of collection	Leq(day) dB(A)	Leq(Night) dB(A)	L_{10}	L_{50}	L_{90}
1.	31/08/2021	47.6	45.2	43.8	42.1	40.5
2.	14/09/2021	48.5	40.8	41.8	39.5	37.1
3.	29/09/2021	48.5	40.8	42.5	40.5	38.7
	Standards	**75**	**70**	-	-	-

NOISE LEVELS AT NORTH WEST BOUNDARY OF PROJECT SITE

(Geo. Location: 9°56'36.71"N, 76°16'01.41" E)

Sr. No	Date of collection	L_{eq}(day) dB(A)	L_{eq}(Night) dB(A)	L_{10}	L_{50}	L_{90}
1.	31/08/2021	61.2	56.8	57.5	55.5	53.4
2.	14/09/2021	67.4	62.8	62.5	58.9	56.2
3.	29/09/2021	68.2	61.6	62.6	60.7	59.0
	Standards	**75**	**70**	-	-	-

NOISE LEVELS AT CENTRE OF PROJECT SITE

(Geo. Location: 9°56'36.71"N, 76°16'1.41" E)

Sr. No	Date of collection	L_{eq} (day) dB(A)	L_{eq} (Night) dB(A)	L_{10}	L_{50}	L_{90}
1.	31/08/2021	59.5	54.7	54.4	52.7	51.7
2.	14/09/2021	64.7	58.2	58.7	55.7	53.8
3.	29/09/2021	66.3	57.8	59.7	57.6	55.9
	Standards	**75**	**70**	-	-	-

NOISE LEVELS AT SOUTH WEST BOUNDARY OF PROJECT SITE

(Geo. Location: 9°56'18.86"N, 76°16'33.65" E)

Sr. No	Date of collection	L_{eq}(day) dB(A)	L_{eq}(Night) dB(A)	L_{10}	L_{50}	L_{90}
1.	31/08/2021	42.8	40.1	39.9	37.5	35.3
2.	14/09/2021	44.8	41.4	41.1	39.2	37.4
3.	29/09/2021	47.5	43.4	43.8	41.8	40.2
	Standards	**75**	**70**	-	-	-

NITYA LABORATORIES AUTHORISED

03. MARINE WATER SAMPLING

Marine Water Sampling at Up Stream during Low Tide & High Tide

(Geo. Location: 9°56.388' N, 76°15.945' E)

Sr. No.	Parameter	Unit	Class-SW-IV (For Harbour Waters)	Result	
				SW1-Low Tide	SW1-High Tide
1	pH value	-	6.0-9.0	6.6	7.5
2	Temperature	-	-	25.4	25.5
3	Total Dissolved Solids	mg/L	-	2600	3278
4	Total Suspended Solids	mg/L	-	38	27
5	Dissolved Oxygen	mg/L	3.0 Mini	6.5	5.8
6	Biochemical Oxygen Demand BOD (3 days at 27°C)	mg/L	5.0 Max	4.6	4.5
7	Total Hardness	mg/L	-	3675	3278
8	Total Alkalinity	mg/L	-	15	25
9	Chlorides	mg/L	-	1739	1524
10	Turbidity	NTU	-	<1	<1
11	Conductivity	Us/cm	-	41523	37827
12	Oil & Grease	mg/L	10 Max.	2.8	2.5
13	Manganese as Mn	mg/l	-	BDL (LOQ-0.1)	BDL (LOQ-0.1)
14	Total Chromium as Cr	mg/l	-	BDL (LOQ-0.05)	BDL (LOQ-0.05)
15	Hexavalent Chromium as Cr^{6+}	mg/l	-	BDL (LOQ-0.05)	BDL (LOQ-0.05)
16	Lead as Pb	mg/l	-	BDL (LOQ-0.01)	BDL (LOQ-0.01)
17	Zinc as Zn	mg/l	-	BDL (LOQ-0.5)	BDL (LOQ-0.5)
18	Cadmium as Cd	mg/l	-	BDL (LOQ-0.001)	BDL (LOQ-0.001)
19	Copper as Cu	mg/l	-	BDL (LOQ-0.1)	BDL (LOQ-0.1)
20	Nickel as Ni	mg/l	-	BDL (LOQ-0.1)	BDL (LOQ-0.1)
21	Salinity	PPT	-	26.7	15.8

NITYA LABORATORIES AUTHORISED

Marine Water Sampling at Project Site -1 during Low Tide & High Tide

(Geo. Location: 9°56.526' N, 76°15.861' E)

Sr. No.	Parameter	Unit	Class-SW-IV (For Harbour Waters)	Result	
				SW2-Low Tide	SW2-High Tide
1	pH value	-	6.0-9.0	6.9	6.8
2	Temperature	-	-	25.5	25.6
3	Total Dissolved Solids	mg/L	-	2420	3873
4	Total Suspended Solids	mg/L	-	20	21
5	Dissolved Oxygen	mg/L	3.0 Mini	6.1	4.2
6	Biochemical Oxygen Demand BOD (3 days at 27°C)	mg/L	5.0 Max	4.3	4.3
7	Total Hardness	mg/L	-	3815	3564
8	Total Alkalinity	mg/L	-	25	21
9	Chlorides	mg/L	-	1569.5	1421
10	Turbidity	NTU	-	<1	<1
11	Conductivity	Us/cm	-	42716	41928
12	Oil & Grease	mg/L	10 Max.	2.3	2.1
13	Manganese as Mn	mg/l	-	BDL (LOQ-0.1)	BDL (LOQ-0.1)
14	Total Chromium as Cr	mg/l	-	BDL (LOQ-0.05)	BDL (LOQ-0.05)
15	Hexavalent Chromium as Cr^{6+}	mg/l	-	BDL (LOQ-0.05)	BDL (LOQ-0.05)
16	Lead as Pb	mg/l	-	BDL (LOQ-0.01)	BDL (LOQ-0.01)
17	Zinc as Zn	mg/l	-	BDL (LOQ-0.5)	BDL (LOQ-0.5)
18	Cadmium as Cd	mg/l	-	BDL (LOQ-0.001)	BDL (LOQ-0.001)
19	Copper as Cu	mg/l	-	BDL (LOQ-0.1)	BDL (LOQ-0.1)
20	Nickel as Ni	mg/l	-	BDL (LOQ-0.1)	BDL (LOQ-0.1)
21	Salinity	PPT	-	29.8	13.2

NITYA LABORATORIES AUTHORISED

Marine Water Sampling at Project Site -2 during Low Tide & High Tide

(Geo. Location: 9°56.764' N, 76°15.837' E)

Sr. No.	Parameter	Unit	Class-SW-IV (For Harbour Waters)	Result	
				SW3-Low Tide	SW3-High Tide
1	pH value	-	6.0-9.0	6.8	6.9
2	Temperature	-	-	25.7	26.7
3	Total Dissolved Solids	mg/L	-	1917	1965
4	Total Suspended Solids	mg/L	-	20	19
5	Dissolved Oxygen	mg/L	3.0 Mini	6.3	6.4
6	Biochemical Oxygen Demand BOD (3 days at 27°C)	mg/L	5.0 Max	3.7	3.2
7	Total Hardness	mg/L	-	3827	3625
8	Total Alkalinity	mg/L	-	20	20
9	Chlorides	mg/L	-	878.7	869.7
10	Turbidity	NTU	-	<1	<1
11	Conductivity	Us/cm	-	41526	38726
12	Oil & Grease	mg/L	10 Max.	2.7	2.9
13	Manganese as Mn	mg/l	-	BDL (LOQ-0.1)	BDL (LOQ-0.1)
14	Total Chromium as Cr	mg/l	-	BDL (LOQ-0.05)	BDL (LOQ-0.05)
15	Hexavalent Chromium as Cr^{6+}	mg/l	-	BDL (LOQ-0.05)	BDL (LOQ-0.05)
16	Lead as Pb	mg/l	-	BDL (LOQ-0.01)	BDL (LOQ-0.01)
17	Zinc as Zn	mg/l	-	BDL (LOQ-0.5)	BDL (LOQ-0.5)
18	Cadmium as Cd	mg/l	-	BDL (LOQ-0.001)	BDL (LOQ-0.001)
19	Copper as Cu	mg/l	-	BDL (LOQ-0.1)	BDL (LOQ-0.1)
20	Nickel as Ni	mg/l	-	BDL (LOQ-0.1)	BDL (LOQ-0.1)
21	Salinity	PPT	-	27.5	19.8

NITYA LABORATORIES AUTHORISED

Marine Water Sampling at Down Stream during Low Tide & High Tide

(Geo. Location: 9°56.957' N. 76°15.897' E)

Sr. No.	Parameter	Unit	Class-SW-IV (For Harbour Waters)	Result	
				SW4-Low Tide	SW4-High Tide
1	pH value	-	6.0-9.0	6.7	6.5
2	Temperature	-	-	25.8	26.5
3	Total Dissolved Solids	mg/L	-	1180	1328
4	Total Suspended Solids	mg/L	-	29	25
5	Dissolved Oxygen	mg/L	3.0 Mini	6.6	6.9
6	Biochemical Oxygen Demand BOD (3 days at 27°C)	mg/L	5.0 Max	3.5	3.9
7	Total Hardness	mg/L	-	3565	3287
8	Total Alkalinity	mg/L	-	15	19
9	Chlorides	mg/L	-	709.7	827
10	Turbidity	NTU	-	<1	<1
11	Conductivity	Us/cm	-	42837	41827
12	Oil & Grease	mg/L	10 Max.	2.9	3.3
13	Manganese as Mn	mg/l	-	BDL (LOQ-0.1)	BDL (LOQ-0.1)
14	Total Chromium as Cr	mg/l	-	BDL (LOQ-0.05)	BDL (LOQ-0.05)
15	Hexavalent Chromium as Cr^{6+}	mg/l	-	BDL (LOQ-0.05)	BDL (LOQ-0.05)
16	Lead as Pb	mg/l	-	BDL (LOQ-0.01)	BDL (LOQ-0.01)
17	Zinc as Zn	mg/l	-	BDL (LOQ-0.5)	BDL (LOQ-0.5)
18	Cadmium as Cd	mg/l	-	BDL (LOQ-0.001)	BDL (LOQ-0.001)
19	Copper as Cu	mg/l	-	BDL (LOQ-0.1)	BDL (LOQ-0.1)
20	Nickel as Ni	mg/l	-	BDL (LOQ-0.1)	BDL (LOQ-0.1)
21	Salinity	PPT	-	27.5	19.8

NITYA LABORATORIES AUTHORISED

ANNEXURE-2 OF ENCL:2

कोचीन शिपयार्ड लिमिटेड
(भारत सरकार की श्रेणी-1 मिनिरत्न कंपनी, पत्तन, पोत परिवहन और जलमार्ग मंत्रालय)

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

INFRA/197/2021

09 Sept 2021

The Member Secretary,
Kerala State Pollution Control Board,
Pattom PO,
Thiruvananthapuram – 695 004.

Sub: SUBMISSION OF ANNUAL ENVIRONMENTAL STATEMENT (FORM-V)

Ref: Environmental Clearance issued vide letter no. 11-65/2013-IA-III dated 22 June 2017 for the project 'Augmentation of Existing Ship Repair Facility at Cochin Port of District Ernakulam, Kerala by M/s Cochin Shipyard Limited'.

Please be informed that while awarding EC for the project viz., 'Augmentation of Existing Ship Repair Facility at Cochin Port of District Ernakulam, Kerala by M/s Cochin Shipyard Limited', MoEFCC had asked to submit Environmental Statement for each financial year ending on 31 March in Form – V to the concerned State Pollution Control Board. Accordingly, Form-V statement of the project referred above pertaining to FY 20-21 is submitted herewith.

Yours faithfully,

For Cochin Shipyard Limited

General Manager (Materials) &
Occupier- Environment (Protection) Act 1986

हरिकृष्णन एस/HARIKRISHNAN S
दखलकार-पर्यावरण(संरक्षण) अधिनियम 1986
Occupier-Environment(Protection) Act 1986
कोचीन शिपयार्ड लिमिटेड
Cochin Shipyard Ltd.
कोच्ची / Kochi - 15

पंजीकृत कार्यालय : प्रशासनिक भवन, पी.ओ.बैग सं 1653, पेरुमानूर पी. ओ., कोच्ची - 682 015
Registered Office : Administrative Building, P.O. Bag No. 1653, Perumanoor P.O., Kochi - 682 015
फोन / Phone : +91(484) 2361181 / 2501200 फाक्स / Fax : +91 (484) 2370897 / 2383902
वेबसाइट / Website : www.cochinshipyard.com, सीआईएन / CIN: L63032KL1972GOI002414

ANNEXURE
ENVIRONMENTAL STATEMENT FORM - V
(See rule 14)

Environmental Statement for the financial year ending with 31st March 2021

PART A

i.	*Name and address of the owner/ Occupier of the industry*	: Sri. Harikrishnan S, GM (Materials) & Occupier (Environment-Protection)
	Operation or process	: Construction of International Ship Repair Facility (ISRF)
ii.	*Industry category 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*	:

PART B

Water and Raw Material Consumption

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

Process : 231.24 m^3/d

Cooling : Not Applicable

Domestic : 20.73 m^3/d

Name of Products	Total Process water consumption	
	During previous financial year (2019-2020)	During current financial year (2020-2021)
International Ship Repair Facility (ISRF)	8440.40 m^3	2523.60 m^3

ii. Raw material consumption

Name of Raw Material*	Name of Products	Consumption of Raw Material.	
		During previous year financial year (2019-2020)	During current financial year (2020-2021)
M. Sand	Concrete	52,738 MT	21,375 MT
12.5mm Aggregate		40,116 MT	15,931 MT
20mm Aggregate		40,116 MT	15,931 MT
Cement		25,568 MT	9,796 MT
Reinforcement	-	8,630 MT	4,503 MT

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

PART C

Pollution discharged to environment/unit of output

(Parameter as specified 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	Not applicable	Not applicable	Not applicable
(b) Air	Not applicable	Not applicable	Not applicable

PART D

HAZARDOUS WASTES

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

Hazardous Wastes	Total Quantity in (KL, L, Tonnes, kg, Items)	
	During previous year financial year (2019-2020)	During current financial year (2020-2021)
(a) From Process	Not Applicable	Not Applicable
(b) From pollution control facilities	Not Applicable	Not Applicable

PART E

SOLID WASTES

Solid Wastes	Total Quantity (kg)	
	During previous year financial year (2019-2020)	During current financial year (2020-2021)
(a) From Process (Pile Muck)	69,760.500	13,151.27
(b) Food Waste	1,29,600	10,950
(c) From Pollution control facilities	Nil	Nil
(d) Quantity recycled or re utilised within the unit	Not Applicable	Not Applicable

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 wastes.

We have the licensed Service Provider those who have collected the Solid Wastes from our place dump in the Cochin Corporation designated place. Our Pile work job has over now pile muck is not generating.

PART G

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

Not Applicable

PART H

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

Not Applicable

PART I

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

1. **Plantation Drive**

   During World Environment Day plantation drive were organized at ISRF site.

2. **Installation of Dust barrier**

   Adequate grid blasting sheds were installed at ISRF site for dust protection

3. **Water sprinkling for dust protection**

   Water sprinkling was done during summer season to avoid dust.

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