JINDAL UNITED STEEL LIMITED

JUSL/JRD/ENV/2024-25/15 **Date: 28.11.2024**

To

Deputy Director General of Forests (C)
Ministry of Environment, Forest & Climate Change
Regional Office (EZ)
A/3, Chandrasekharpur
Bhubaneswar-751023

Sub: Half Yearly Compliance Report of Environment Clearance for the period from April, 2024 to September, 2024.

Ref: 1. Environment Clearance vide Letter No . IA-J-11011/110/2018-IA.II(I), dated 24.05.2019 for capacity expansion of Hot Strip Mill from 1.6 MTPA to 3.2 MTPA and new installation of 0.3 MTPA Cold Rolling Mill.

2. Environment Clearance vide Letter No. IA-J-11011/110/2018-IA.II(I), dated 25.05.2018 for 1.6 MTPA Hot Strip Mill along with plate finishing shop.

Dear Sir,

With reference to the above Environment Clearances, please find enclosed herewith the half yearly compliance report for the stipulated conditions for the period from April, 2024 to September, 2024.

The soft copy of the same has also been sent to email –id **roez.bsr-mef@nic.in.**

Thanking You,

Yours faithfully,
For **Jindal United Steel Limited**

Arun Kumar Tripathi
(Vice President - HSM)

GOVT. OF INDIA
MoEF & CC Integrated R.O.
Bhubaneswar-751023
10 DEC 2024
RECEIVED

Enc: As Above

CC:

1. The Director, Industry – I, MOEF&CC, Indira Paryavaran, Jor Bagh Road, Aliganj, New Delhi – 110003.
2. The In-Charge, Central Pollution Control Board, 502, Southernd Conclave 1582, Rajdanga Main Road, Kolkata – 700017

JINDAL UNITED STEEL LIMITED

HALF YEARLY EC COMPLIANCE REPORT

APRIL, 2024 TO SEPTEMBER, 2024

Kalinga Nagar Industrial Complex, Duburi, Dist. Jajpur - 755026, Odisha, India

Status of Compliance report of Environment Clearance conditions for capacity expansion of Hot Strip Mill from 1.6 MTPA to 3.2 MTPA and new installation of 0.3 MTPA Cold Rolling Mill.
(Ref: IA-J-11011/110/2018-IA. II(I), dated 24.05.2019)

A. Specific conditions

Sl .no.	EC condition	Compliance status
i.	The CER shall be completed within a time frame of three years.	Activities under CER are being undertaken. Detailed report is enclosed as **Annexure – I.**
Ii	Action plan for rainwater harvesting measures at plant site shall be submitted to the Regional office indicating quantity of rain water to be harvest from the roof tops and storm water drains to recharge the ground water and also to use for the various activities at the project site to conserve fresh water and reduce the water requirement from other sources.	The rooftop rain water harvesting system has been installed. The harvested water is being reutilized as raw water through raw water reservoir.
Iii	The company shall establish separate environmental management cell for JSL & JCL respectively	Environment Management Cell has been established for JSL and JCL.
Iv	Greenbelt shall be in area of 10 ha. Outside the factory premises and the implementation status shall be reported to Regional Office of MoEF&CC.	We have carried out avenue plantation of 8000 nos. of saplings at nearby villages i.e. Nuagaon, Balungabandi, Satabainsia, Kharadi, Mangalapur villages covering an area of 12 Acres.

B. General condition

Sl .no.	EC condition	Compliance status
I. Statutory compliance:		
i.	The project proponent shall obtain Consent to Establish / Operate under the provisions of Air (Prevention & Control of Pollution) Act, 1981 and the Water (Prevention & Control of Pollution) Act, 1974 from the concerned State Pollution Control Board / Committee.	Consent to Establish (CTE) for expansion of Hot Strip Mill from 1.6 MTPA to 3.2 MTPA and installation of 0.3 MTPA Cold Rolling Mill (CRM) was obtained vide SPCB letter No. 7663/IND-II-CTE-6231, dated. 19.07.2019. The unit has obtained Consent to Operate for 1.6 MTPA HSM and 0.3 MTPA CRM valid up to 31.03.2025. The unit has also obtained Consent to Operate for expansion of HSM from 1.6 MTPA to 3.2 MTPA valid up to 31.03.2025.
ii.	The project proponent shall obtain the necessary permission from the Central Ground Water Authority, in case of drawl of	The project is not using any ground water. The water required for process is being fulfilled from common water

Sl .no.	EC condition	Compliance status
	ground water / from the competent authority concerned in case of drawl of surface water required for the project.	reservoir of Jindal Stainless Limited JSL is sourcing water from River Brahmani for which JSL has obtained permission from water resource Dept. Odisha.
iii.	The project proponent shall obtain authorization under the Hazardous and other Waste Management Rules, 2016 as amended from time to time.	The plant has already obtained authorization under Hazardous and other Waste Management Rules, 2016 and amended there-off for present facilities from SPCB, Odisha, which is valid till 31.03.2025. For any additional generation post expansion, we shall obtain necessary authorization from SPCB, Odisha.
II. Air quality monitoring and preservation:		
i.	The project proponent shall install 24x7 continuous emission monitoring system at process stacks to monitor stack emission with respect to standards prescribed in Environment (Protection) Rules 1986 vide G.S.R 277 (E) dated 31st March 2012 (applicable to IF/EAF) as amended from time to time; S.O. 3305 (E) dated 7th December 2015 (Thermal Power Plants) as amended from time to time and connected to SPCB and CPCB online servers and calibrate these system from time to time according to equipment supplier specification through labs recognized under Environment (Protection) Act, 1986 or NABL accredited laboratories.	The continuous emission monitoring system (CEMS) has been installed at RHF 1 & 2, Shot Blaster of PFS and Hot Pickling Line and the online data is being transmitted to both SPCB/CPCB servers. To maintain reliability and accuracy of the data, periodical calibration is being done as per guidance of instrument supplier.
ii.	The project shall monitor fugitive emission in the plant premises at least once in every quarter through labs recognized under Environment (Protection) Act, 1986 or NABL accredited laboratories.	Fugitive emission monitoring at various locations is being carried out through NABL accredited laboratory on monthly basis. The monitoring report is enclosed as **Appendix – A.**
iii.	The project proponent shall install system carryout Continuous Ambient Air Quality monitoring for common/criterion parameters relevant to the main pollutants released (e.g. PM_{10} and $PM_{2.5}$ in reference to PM emission, and SO_2 and NOx in reference to SO_2 and NOx emissions) within and outside the plant area (at least four locations one within and three outside the plant area at an angle of 120° each), covering upwind and downwind directions.	• One no. of continuous ambient air quality station has been installed in JUSL which cater the requirement of downstream installation. • For upstream installation there are 3 no. of stations which share the common boundary of JSL & JUSL to monitor PM10, PM2.5, Sox & NOx. • All data are continuously transmitted to OSPCB & CPCB

Sl .no.	EC condition	Compliance status
		and submitted periodically to MoEF&CC. • Both the manual and online monitoring report of Stack & ambient air quality is enclosed as **Appendix-A** and **Appendix-B** respectively.
iv.	The project proponent shall submit monthly summary report of continuous stack emission and air quality monitoring and results of manual stack monitoring and manual monitoring of air quality / fugitive emissions to Regional office of MoEF&CC, Zonal office of CPCB and regional office of SPCB along with six monthly monitoring report.	Manual monitoring of Ambient Air quality / stack monitoring is being carried out periodical basis. The monitoring report is annexed as **Appendix – A**. The monthly summary summery report of Continuous Ambient Air Quality monitoring data is annexed as **Appendix – B.**
v.	Appropriate Air Pollution Control (APC) system shall be provided for all the dust generating points including fugitive dust form all vulnerable sources.	Bag filters have been installed at PFS and HPL to arrest fugitive dust emission.
vi.	The project proponent shall provide leakage detection and mechanized bag cleaning facilities for better maintenance of bags.	Mechanized bag cleaning facilities has been provided for maintenance of bags.
vii.	Sufficient number of mobile or stationery vacuum cleaners shall be provided to clean plant roads, shop floors, roofs regularly	Mechanical sweepers have been engaged for road and shop floor cleaning.
viii.	Recycle and reuse iron ore fines, coal and coke fines, lime fines collected in the pollution control devices and vacuum cleaning devices in the process after briquetting / agglomeration.	The mill scales generated prom the process is being reused for making of Briquette in Briquette Plant for further reuse in Ferro Alloys plant of JSL.
ix.	The project proponent shall use leak proof trucks / dumpers carrying coal and other raw materials and cover them with tarpaulin.	SMS Slab is the main raw material used in Hot Strip Mill, which is received from JSL through Slab Transfer Car. Leak proof systems (trucks) for carrying coal, chromite ores are used. All the trucks are being covered with tarpaulin for carrying JSL raw materials.
x.	The project proponent shall provide covered sheds raw materials like scrap and sponge iron, lump ore, coke, coal, etc.	SMS Slab is the main raw material used in Hot Strip Mill, which is received from JSL through Slab Transfer Car and kept under shed in slab yard.
xi.	The project proponent shall provide primary and secondary fume extraction system at all melting furnaces.	Fume extraction system has been installed at all fume generating points like HPL and PFS.

Sl .no.	EC condition	Compliance status
xii.	Design the ventilation system for adequate air changes as per ACGIH document for all tunnels, motor houses, Oil Cellars.	All the ventilation system installed at shop floor are as per guideline.
III. Water quality monitoring and preservation		
i.	The project proponent shall install 24x7 continuous effluent monitoring system with respect to standards prescribed in Environment (Protection) Rules 1986 vide G.S.R 277 (E) dated 31st March 2012 (applicable to IF/EAF) as amended from time to time; S.O. 3305 (E) dated 7th December 2015 (Thermal Power Plants) as amended from time to time and connected to SPCB and CPCB online servers and calibrate these system from time to time according to equipment supplier specification through labs recognized under Environment (Protection) Act, 1986 or NABL accredited laboratories.	Continuous Effluent Monitoring System has been installed at ETP of HPL for monitoring of parameters like pH, TSS, and connected to SPCB/CPCB server. The online monitoring report is annexed as **Appendix – B.** To maintain reliability and accuracy of the data, periodical calibration is being done as per guidance of instrument supplier.
ii.	The project proponent shall monitor regularly ground water quality at least twice a year (pre and post monsoon) at sufficient numbers of piezometers / sampling wells in the plant and adjacent areas through labs recognized under Environment (Protection) Act, 1986 or NABL accredited laboratories.	The unit is monitoring ground water quality in core zone as well as in nearby areas by NABL accredited third party. Report is annexed as **Appendix – A**.
iii.	The project proponent shall submit monthly summary report of continuous effluent monitoring and results of manual effluent testing and manual monitoring of ground water to Regional office of MoEF&CC, Zonal office of CPCB and regional office of SPCB along with six monthly monitoring report.	The online data of effluent quality monitoring system is annexed as **Appendix – B**. The manual testing report of effluent and ground water is annexed as **Appendix-A.** Both the manual and Online monitoring data is being submitted to Regional office of MoEF&CC along with half yearly EC compliance.
iv.	Adhere to "Zero Liquid Discharge"	Effluent from HSM is being treated and reused in different low-end applications.
v.	Sewage Treatment Plant shall be provided for treatment of domestic waste water to meet the prescribed standards.	The Sewage generated is being stored in soak pit and transferred to STP having capacity of 35m^3/day (under JSL) for treatment the sewage water generated from the plant. The quality of STP treated is being checked periodically against prescribed standard which is enclosed as Appendix-A.

Sl .no.	EC condition	Compliance status
vi.	The project proponent shall provide the ETP for treatment of effluents of Rolling Mills to meet the standards G.S.R 277 (E) dated 31st March 2012 (applicable to IF/EAF) as amended from time to time.	An ETP of capacity 350m^3/day has been installed for treatment of effluent generated from Hot Pickling Line. The quality of treated effluent is being monitored periodically which is enclosed as **Appendix – A.**
vii.	Garland drains and collection pits shall be provided for each stock pile to arrest the run-off in the event of heavy rains and to check the water pollution due to surface run-off.	The raw material for Hot Strip Mill is Slab which is stored under shed. However, separate garland drains and storm water drains has been constructed for flow of surface runoff during monsoon.
viii.	The project proponent shall practice rain water harvesting to maximum possible extent.	The rooftop rain water harvesting system has been installed. The harvested water is being reutilized as raw water through raw water reservoir.
ix.	The project proponent shall make efforts to minimize water consumption in the steel plant complex by segregation of used water, practicing cascade use and by recycling treated water.	The waste water generated from process is being treated in WTP and reused in the process.
IV. Noise monitoring and prevention		
i.	Noise level shall be carried as per the prescribed guidelines and report in this regard shall be submitted to Regional Officer of the Ministry as a part of six-monthly compliance.	The noise level monitoring is being carried out periodically. The monitoring report is annexed as **Appendix – A.**
ii.	The ambient noise levels should conform to the standards prescribed under E(P)A Rules, 1986 viz. 75 dB(A) during day time and 70 dB(A) during night time.	The monitoring of ambient noise level is being carried out periodically and the monitored data is being submitted to the Regional Officer of the Ministry along with six- monthly compliance report. The monitoring data is annexed as **Appendix – A.**
V. Energy Conservation Measures		
i.	The project proponent shall provide waste heat recovery system (pre-heating of combustion air) at the flue gases of reheating furnaces.	Pre-heating of combustion air system has been installed at both the existing and new reheating furnaces.
ii.	Practice hot charging of slabs and billets/blooms as far as possible.	Hot charging of slabs is part of energy saving initiative which has been implemented at JUSL.
iii.	Ensure installation of regenerative type burners on all furnaces.	The Reheating Furnace installed is walking beam reheating furnace with recuperator. Recuperator is used in the reheating furnaces as a waste heat recovery unit to realize high thermal efficiency and energy conservation. The

Sl .no.	EC condition	Compliance status
		recovered waste heat is used to preheat the combustion air, which is then fed to a burner.
iv.	Provide solar power generation on roof tops of buildings, for solar light system for all common areas, street lights, parking around the project area and maintain the same regularly.	Roof top Solar plant of capacity 8.6 MWp has been installed.
V	Provide LED lights in their office and residential areas.	LED lights have been provided at all office and work place areas as part of energy conservation measures.
VI. Waste Management		
i.	Used refractories shall be recycled a far as possible.	Used refectories generated are being recycled through recyclers.
ii.	Oily scum and metallic sludge recovered from rolling mills of ETP shall be mixed, dried and briquetted and reused melting furnaces.	Metallic sludge recovered from rolling shop is being recycled in Briquette Plant for further reuse in Ferro Alloys Plant of JSL.
iii.	100% utilization of fly ash shall be assured. All the fly ash shall be provided to cement and brick manufactures for further utilization and Memorandum of Understanding in this regard shall be submitted to the Ministry's Regional Office.	JUSL does not operate any power plant for its operation. The power requirement is made by power purchase from JSL.
iv.	The waste oil, grease and other hazardous wastes like acidic sludge from pickling, galvanizing, chrome plating mills etc. shall be disposed as per the Hazardous & Other Waste (Management & Transboundary Movement) Rules, 2016.	The waste oil generated is being disposed to authorized recycler.
VII. Green Belt		
i.	Green belt shall be developed in an area equal to 33% of the plant area with a native tree species in accordance with CPCB guideline. The greenbelt shall inter alia cover the entire periphery of the plant.	Greenbelt has been developed inside the plant premises. Survival rate of plants are being monitored and 157 nos. damage plants have been replaced to maintain the tree density as per the requirement.
ii.	The project proponent shall prepare GHG emission inventory for the plant and shall submit the programme for reduction of the same including carbon sequestration including plantation.	JUSL has taken up various Decarbonization programs. The detail projects planned for reduction of GHG emissions is attached as **Annexure – II.**
VIII. Public hearing and Human health issues		
i.	Emergency Preparedness plan based on Hazard Identification and Risk Management (HIRA) and Disaster Management Plan shall be implemented.	•Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) has been prepared and regular mock drill being conducted for verifying effectiveness of the plan.

Sl .no.	EC condition	Compliance status
		•Disaster Management Plan has been prepared in consultation with District Administration and has implemented for existing operation.
ii.	The project proponent shall carryout heat stress analysis for the workmen who work in high temperature work zone and provide Personal Protective Equipment (PPE) as per the norms of Factory Act.	Heat stress analysis at high temperature work zone has been carried out by third party and Personal Protective Equipment (PPE) as per the norms of Factory Act is being provided to the workman.
iii.	Provision shall be made for housing construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical healthcare, crèche etc. The housing may be in the form of temporary structures to be removed after completion of the project.	There is no provision of staying of construction labour within the plant site.
iv.	Occupation Health surveillance of the workers shall be done regular basis and records maintained as per the Factory Act.	Periodical health checkup of all the workers are being carried out on periodical basis as per the Factory Act.
IX. Corporate Environment Responsibility		
i.	The project proponent shall comply with the provisions contained in this Ministry's OM vide F.No. 22-65/2017-IA.III dated 1st May 2018, as applicable, regarding Corporate Environment Responsibility.	The notification is superseded by MoEF notification dated 30th September 2020. The issues raised during public hearing is being complied. Progress is being reviewed, tracked and implemented.
ii.	The company shall have a well laid down environmental policy duly approve by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements / deviation / violation of the environmental / forest / wildlife norms / conditions. The company shall have defined system for reporting infringements / deviation / violation of the environmental / forest / wildlife norms / conditions and / or shareholders / stake holders. The copy of the Board Resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report.	The company is having a well laid down QEOHS Policy dully approved by the Director. The copy of the same is attached as **Annexure – III**.
iii.	A separate Environment Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior executive, who will directly to the head of the organization	A separate Environment cell has been setup with skilled personal to take care of Environment issues of plant. The Head of Environment Department directly reports to Head of the organization.

Sl .no.	EC condition	Compliance status
iv.	Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall be prepared and shall be dully approved by competent authorities. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the Ministry / Regional Office along with the six-monthly compliance report.	Action Plan for implementation of EMP has been made and periodically reviewed. A robust environmental monitoring plan has been made for periodical monitoring of EMP. The earmarked funds for Environment protection are judiciously spent. Details is enclosed as **Annexure – I.**
v.	Self –environmental audit shall be conducted annually. Every three years third party environmental audit shall be carried out.	Self environmental audit is being conducted regularly and any opportunity of improvement observed is being taken up with control hierarchy Third Party Audit for the year 2022-23 has been completed and reports were submitted to MOEF&CC.
vi.	All the recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the plants shall be implemented.	All the recommendations made in the Charter on Corporate Responsibility for Environment Protection is being implemented in the plant.
X. Miscellaneous		
i.	The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising in at least in two local news papers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.	• Advertisement on grant of Environment Clearance (EC) has been published in two local news papers within seven days of grant of EC. Copy of the same has been submitted on 02.06.2019. • Environment Clearance is displayed at the website of the company permanently.
ii.	The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the day of receipt.	The copies of the environmental clearance had been submitted to the Heads of local bodies, Panchayats.
iii.	The project proponent shall upload the status of compliance of the stipulated environmental clearance conditions including results of monitored data on their website and update the same on half-yearly basis.	The Compliance status of the environment clearance conditions and monitoring data is being uploaded on the website and also updated on half yearly basis.

Sl .no.	EC condition	Compliance status
iv.	The project proponent shall monitor the criteria pollutant level namely; PM_{10}, SO_2, NOx (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the projects and display the same at a convenient location for disclosure to the public and put on the website of the company.	1 no. of dedicated CAAQMS has been installed at M/s. Jindal United Steel Limited for monitoring of parameters like PM10, PM2.5, SO2, NOx and CO in ambient air. The Monitoring data along with the EC compliance is uploaded on the company website.
v.	The project proponent shall submit six-monthly report on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environmental clearance portal.	Six-monthly compliance report of environment clearance is being uploaded on the website of MoEF &CC.
vi.	The project proponent shall submit the environmental statement for each financial year in Form-IV to the concern State Pollution Control Board under the Environment (Protection). Act 1986, as amended subsequently and put on the website of the company.	Environmental statement for each financial year in Form-V is being submitted to SPCB, Odisha in due time. The last report submitted on 28.09.2024 and also display on company website.
vii.	The project proponent shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities, commencing the land development work and start of production operation by the project. i. The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government. ii. The project proponent shall abide by all commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.	The unit has obtained Consent to Operate for 1.6 MTPA HSM and 0.3 MTPA CRM valid up to 31.03.2025. The unit has also obtained Consent to Operate for expansion of HSM from 1.6 MTPA to 3.2 MTPA valid up to 31.03.2025. The plant is being operated well with in the stipulation made by State Pollution Control Board, Odisha. EIA/EMP and public Hearing commitment are being reviewed, tracked and implemented in a timebound manner.
viii.	No further expansion or modifications in the plant shall be carried out prior approval of the Ministry of Environment, Forest and Climate Change (MoEF&CC).	Any further expansion of the project will be routed in accordance with the MoEF&CC's relevant guidelines.
ix.	Concealing factual data or submission of false/fabricated data may result revocation of this environmental clearance and attract action under the provision of Environment (Protection). Act 1986.	All the data/information submitted is factual and correct.

Sl .no.	EC condition	Compliance status
x.	The Ministry may revoke or suspended the clearance, if implementation of any of the above conditions is not satisfactory.	The project proponent is implementing all the relevant conditions
xi.	The Ministry reserves the right to stipulate additional conditions if found necessary. The company in a time bound manner shall implement these conditions.	All conditions including additional conditions if any are being complied checked and maintained.
xii.	The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities shall extend full co-operation to the officer(s) of the Regional office by furnishing the requisite data / information / monitoring reports.	All the cooperation is being extended to any statutory authorities by furnishing requisite data, information and monitoring reports.
xiii.	The above conditions shall be enforced, inter-alia under the provision of the Water (Prevention & Control of Pollution) Act, 1974, the AIR (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India / High Courts and any other Court of Law relating to the subject Manner.	All statutory provisions under Air Act, Water Act, Hazardous waste management rule, Public liability insurance act shall be followed.
xiv.	Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under the Section 16 of the National Green Tribunal Act, 2010	Any such appeal shall be routed through the NGT if any.

Status of compliance report environment clearance conditions of 1.6 MTPA Hot Strip Mill along with plate finishing (Ref: IA-J-11011/110/2018-1A II (I), dt. 25th May. 2018)

A. SPECIFIC CONDITIONS:

S. No.	Condition	Compliance
i.	Bag filter shall be installed to control the emissions from PFS. Online continuous monitoring system shall be installed to monitor various pollutants and data submitted to the Ministry's Regional Office at Bhubaneswar, CPCB and OPCB. Dust suppression system shall be installed at raw material handling areas, material transfer points and solid waste dumps to control fugitive emissions. Water sprinkling shall be done on the roads to control fugitive emissions.	• Bag filter has been installed at shot blaster of PFS to control any dust emission. • Continuous Emission monitoring system has been installed and the online data is being transmitted to SPCB/CPCB server. The online data is being submitted to Regional Office MOEF&CC along with the EC compliance. • No dust suppression is required as the raw material for HSM is SMS slab, which is stored under shed with concrete flooring. • The entire internal road is concrete and mechanical road sweepers are deployed for road cleaning.
ii.	No ground water shall be used for the plant. All the treated waste water shall be recycled and reused in the process and 'Zero' discharge shall be strictly adopted as per direction of OPCB. Effluent form Hot Strip Mill shall be treated in ETP and shall be reused. TDS in the effluent shall not be more than 2100 mg/l. The domestic waste water after treatment in STP shall be used for green belt development.	No ground water is being used in the plant. Effluent generate from process is being treated in ETP and the treated water is used in low-end application. Other effluents like scale pit water/CT blow down are being treated in WTP and completely recycled back to the process. TDS in the effluent is well within the prescribed limit.
iii.	Ground water monitoring around the solid waste disposal site/ secured landfill (SLF) shall be carried out regularly and report submitted to the Ministry's Regional Office at Bhubaneswar / CPCB and OPCB.	The solid waste namely Mill scale generated form HSM is being stored on concrete floor and recycled in Briquette plant of JSL.
iv.	Solid waste shall be disposed of in secured landfill designed as per the specifications of the CPCB. Mill scale from Hot Strip Mill (HSM) shall be sold to the parent company (JSL) for recycling.	Mill scale generated form HSM is being stored on concrete floor and recycled in Briquette Plant for further use in Briquette plant of JSL.

S. No.	Condition	Compliance
v.	Green belt shall be developed within and around the plant premises as per the CPCB guidelines in consultation with DFO.	Green belt has been developed in and around the plant.

B. GENERAL CONDITIONS:

S. No.	Condition	Compliance
i.	The project authorities must strictly adhere to the stipulations made by the Orissa Pollution Control Board (OPCB) and the State Government.	JUSL is strictly adhering to the stipulations made by SPCB and the State Government.
ii.	No further expansion or modifications in the plant should be carried out without prior approval of the Ministry of Environment and Forests.	Any further expansion of the project will be routed in accordance with the MoEF&CC's relevant guidelines.
iii.	The gaseous emissions from various process units shall conform to the load/ mass-based standards notified by this Ministry on 19th May, 1993 and standards prescribed from time to time. The state board may specify more stringent standards for the relevant parameters keeping in view the nature of the industry and its size and location. At no time, the emission level shall go beyond the prescribed standards. On-line continuous monitoring system shall be installed in stacks to monitor SPM and interlocking facilities shall be provided so that process can be automatically stopped in case emission level exceeds the limit.	The gaseous emissions from various process units are being monitored by NABL accredited third party Laboratory. The analysis reports are being submitted to SPCB and MoEF&CC regularly. On-line continuous emission monitoring systems have been installed and online data is being transmitted to SPCB/CPCB server.
iv.	At least four ambient air quality- monitoring stations shall be established in the downward direction as well as where maximum ground level concentration of SPM, SO_2 and NO_x is anticipated in consultation with the OPCB. Data on ambient air quality and stack emission shall be regularly submitted to this Ministry including its Regional Office at Bhubaneswar/ OPCB/ CPCB once in six months.	• One no. of continuous ambient air quality station has been installed in JUSL which caters the requirement of downstream installation. • For upstream installation there are 3 no. of stations which share the common boundary of JSL & JUSL to monitor PM10, PM2.5, Sox & NOx. • All data are continuously transmitted to OSPCB & CPCB and submitted periodically to MoEF&CC. • Both the manual and online monitoring report of Stack & ambient

S. No.	Condition	Compliance
		air quality is enclosed as **Appendix-A** and **Appendix-B** respectively.
v.	In-plant control measures for checking fugitive emissions from all the vulnerable sources of Hot Strip Mill area shall also be provide. Fugitive emissions shall be controlled, regularly monitored and records maintained.	Fugitive emission monitoring is being carried out on regular basis and reports are submitted regularly. The monitoring report is annexed as **Appendix – A.**
vi.	Industrial waste water shall be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19th May, 1993 and 31st December, 1993 or as amended from time to time. The treated waste water shall be utilized for plantation purpose.	Industrial waste water is treated to conform to prescribed standards after treatment in ETP. The treated water is being reused in different low-end application. Scale pit water and CT blow down are being treated in WTP and recycled back to the process.
vii.	The overall noise levels in and around the plant area shall be kept within the standards (85 dBA) by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels should conform to the standards prescribed under EIA Rules, 1989 viz. 75 dBA (daytime) and 70 (dBA) night time.	Adequate measures have been taken to keep noise level within 85 dB(A) in and around plant area. Silencers, Acoustic enclosures are provided to control noises, in various areas of the Plant. The Ambient Noise levels are conforming to the standards prescribed under EPA Rules, 1989. Noise monitoring result are enclosed as ***Appendix-A.***
viii.	The company shall develop surface water harvesting structures to harvest the rain water for utilization in the lean season besides recharging the ground water table.	The rooftop rain water harvesting system has been installed. The harvested water is being reutilized as raw water through raw water reservoir.
ix.	Occupational Health Surveillance of the workers shall be done on a regular basis and record maintained as per the Factories Act.	Annual health checks up of workers is being carried out and records are being maintained. Specialty and super specialty health services is being provided to employees/workers and their dependants by reputed hospitals.
x.	Recommendations made in the CREP guidelines issued for the steel plants shall be implemented.	CREP guidelines are being followed.

<table>
<tr><th>S. No.</th><th>Condition</th><th>Compliance</th></tr>
<tr><td>xi.</td><td>The project proponent shall also comply with all the environmental protection measures and safeguards recommended in the EIA/ EMP report for Hot Strip Mill.</td><td>The Plant has taken all the environmental protection measures and safeguards recommended in the EIA/EMP report.

The details are enclosed as Annexure –I.</td></tr>
<tr><td>xii.</td><td>The project authorities shall utilize Rs. 4 Crores earmarked for the environment pollution control measures judiciously to implement the conditions stipulated by the Ministry of Environment and Forests as well as the State Government along with the implementation schedule for all the conditions stipulated herein. The funds so provided shall not be diverted for other purpose.</td><td>The unit has spent Rs. 12.57 Crores towards pollution control measures during FY 23 -24.

Cost estimation of pollution control in (Rs. Crores)
<table><tr><th>Description</th><th colspan="2">Expenditure in Crores during 2023-24</th></tr><tr><th></th><th>Capital</th><th>Operational</th></tr><tr><td>Air Pollution Control</td><td>0.035</td><td>4.27</td></tr><tr><td>Water Pollution Control</td><td>3.66</td><td>4.05</td></tr><tr><td>Hazardous Waste Management</td><td>-</td><td>0.25</td></tr><tr><td>Greenbelt development</td><td>0.16</td><td>0.15</td></tr><tr><td>Total</td><td>3.85</td><td>8.72</td></tr></table></td></tr>
<tr><td>xiii.</td><td>The regional office of the Ministry at Bhubaneswar/ CPCB/ OPCB will monitor the stipulated conditions. A six-monthly compliance report and the monitored data along with statistical interpretation shall be submitted to them regularly.</td><td>Six monthly compliance report and monitored data is being submitted to the Ministry regularly.</td></tr>
<tr><td>xiv.</td><td>The project proponent shall inform to the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the OPCB/ Committee and may also be seen at Website of the Ministry Of Environment and Forests at http/envfor.nic.in. This shall be advertised within seven days from the date of issue of the clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same shall be forwarded to the regional Office.</td><td>Advertisement on grant of Environment Clearance (EC) had been published in two local news papers within seven days of grant of EC.</td></tr>
<tr><td>xv.</td><td>Project authorities shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the</td><td>The unit has obtained Consent to Operate for 1.6 MTPA HSM and 0.3 MTPA CRM valid up to 31.03.2025. The unit has also</td></tr>
</table>

S. No.	Condition	Compliance
	project by the concerned authorities and the date of commencing the land development work.	obtained Consent to Operate for expansion of HSM from 1.6 MTPA to 3.2 MTPA valid up to 31.03.2025.
xvi.	The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.	The project proponent is implementing all the relevant conditions.
xvii.	The Ministry reserves the right to stipulate additional conditions if found necessary. The company in a time bound manner will implement these conditions	All the existing and any additional condition is being implemented on priority.
xviii.	The above conditions will be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous Waste (Management & Handling) Rules, 2016 and the Public (Insurance) Liability Act, 1991 along with their amendments and rules.	All statutory provisions under Air Act, Water Act, Hazardous waste management rule, Public liability insurance act shall be followed.

CER Compliance Report

DETAILS OF THE COST TO BE INCURRED UNDER CER WITH REGARD TO PUBLIC HEARING ISSUES					
CER ACTIVITIES (PH ISSUES)	**0-12 months**	**13 – 22 months**	**TOTAL**	**Status as on date**	**Amount spent (Rs. In Lakh)**
	(Rs. in Lakh)				
Local Livelihood Programme 3 Blocks (Danagadi, Sukinda & Jajpur Road).	85	80	165.00	**Towards women empowerment** ➢ Promoted 200 women self help groups of 30 nos, villages from Danagadi and Sukinda Blocks in which 3240 women members are associated with our inhouse team and improving their socio-economic status through various skill development training and bank credit facilitation. ➢ Establishment of ASMITA production center, Sahaja Sanitary Napkin Making unit, Boutique centers at Danagadi and Sukinda Blocks. **Towards farmers development program** Assistance provided to more than 1500 farmer directly and more than 20,000 nos. farmers through OLM in 4 blocks of Jajpur district. **Towards community health care.** Cataract operation of 475 senior citizen, club foot treatment of 25 children at Jajpur Dist. Awareness program for TB, long disease, malaria and HIV/AIDS	140

				is conducted in 5 villages of Danagadi Block **Towards education and skill development** ➢ Facilitating trained teachers for giving training on computer education, retail management, computer hardware, networking, electrical etc. to 4000 youths of Kalinganagar**.** ➢ Providing assistance for full time football coaching to 05 tribal children of Danagadi and Sukinda at New Delhi.	
Local Infrastructure Development Programme Construction of 4 Community Centers located within 3 Blocks of Danagadi, Sukinda & Jajpur Road	26	26	52.00	Community center construction at Tikara and Damodarpur village of Danagadi block and Dhuligarh has been completed.	59
Drinking Water Pipeline, pump house and Borewell with Solar Power at Rampillo, Manpur Brahman Sahi, Pingal & Pankapal Sasan	58	-	58.00	Pipe line laying work with pump house and bore well with electrification has been completed at Manpur, Sulia, Pingal, Bengapatia and Kantipur village. Other villages are developed through Government Scheme under BASUDHA Yojana.	45
Cleaning of Ponds in 22 villages in blocks of Danagadi, Sukinda & Jajpur Road	19	-	19.00	Pond cleaning work has been completed at 10 nos of villages namely Marutikar, Mantira, Jajpur road, Dala, Chorda etc. 2 Ponds have identified for cleaning and beautification at Umapada and Bhatika.	20

Community Environmental Protection Programme - Air and Water Monitoring in Buffer Zone especially in Vyasanagar Municipality Area & New Market of Jajpur Road Block and villages of Nuagaon, Jakhpura, Solei and Danagadi	40	-	40.00	Third Party monitoring in buffer zone is being conducted periodically. However, a detailed comprehensive study on air and water quality has been conducted in 2020 as a part of EMP study.	20
Water Sprinkling in surrounding areas	12	-	12.00	Water Sprinkling being carried out at Manpur village, common corridor of JSL boundary. An amount of Rs. 5 Lakhs has been given to KNDC for water sprinkling and other development works.	10
Education Providing Tuition Teachers & Salary teachers for specific requirements of schools in nearby villages like Kumbhiragadia, Danagadi and Jakhpura located within the blocks of Danagadi and Jajpur Road	5	5	10	Teacher along with salary given to the schools available at Danagadi and Trijanga.	10
Boundary Wall for Nodal Upper Primary School at Trijanga	9.5	-	9.50	Boundary Wall for Nodal Upper Primary School at Trijanga has been completed.	10
Health Up gradation and replacement of Medical equipment at CHC of Danagadi	40	-	40.00	Up gradation and replacement of Medical equipment at CHC of Danagadi has been completed.	34
Provision of a DG Set & Beds in PHC OF Pachhikot	5.5	-	5.50	Provision of a DG Set & Beds in PHC OF Pachhikot and korei is completed.	11

Health Camps within blocks of Danagadi and Jajpur Road.	25	-	25.00	Health Camps within block of Danagadi has been completed twice.	20
Local Skill 7 Vocational Training Programme Provision of local skill and vocational training programme in nearby villages like Solei and Danagadi within the block of Danagadi	10	5	15.00	Provision of local skill and vocational training program is being conducted in nearby villages periodically.	12
Avenue/Urban Plantation Urban Plantation within the blocks of Danagadi & Jajpur Road	10	10	20.00	Urban road side Plantation of 8000 nos. of tree at villages Nuagaon, Mangalpur, Kharadi, Balungabandi, Satabainsia	18
Free Sapling to local villages within the blocks of Danagadi & Jajpur Road	3	2	5.00	10000 nos. of free sapling have been provided to Forest Department	5
Total			**476**		**414**

DETAILS OF THE COST TO BE INCURRED UNDER CER WITH REGARD TO NEEDS ASSESSMENT

CER ACTIVITIES (PH ISSUES)	0-12 months	13 – 22 months	TOTAL	Status as on date	Amount spent (Rs. In Lakh)
	(Rs. in Lakh)				
Local Skill & Vocational Training Programme Vocational and Skill Development Training for women and girls in Mangobindapur, Saranapur, Danagadi and Kacherigan.	6	4	10.00	Vocational and Skill Development Training for women and girls in near by village is being regularly conducted, Entrepreneurship development Programme in Danagadi.	9
Local Infrastructure Development Programme Improvement in Road Conditions in consultation with local administration in villages of Solei and Mangobindapur	12	12	24.00	Road repairing work is completed to Mangobindpur to Bengapatia at stretch of 500 mt. Concrete road is completed at Pankpal.	20
Additional Issues addressed under CER					
Construction of Shiva Temple(Bagei Biswswar temple) in Village Balungabandi				Construction of Shiva Temple in balungabandi Village has been completed	32
Jagya Mandap at Nohuranipasi				Jagya Mandap at Nohuranipasi work Completed	6
Danagadi Saraswati Sisu Mandir Class room and Toilet				Classroom and toilet of Sisumandir at Danagadi has been completed.	10
Hudisahi temple				Thakursala at hudisahi trijanga colony has been completed.	5
NUAGAON sai Temple				Sai temple at nuagaon has been completed	7
Brahmakumari Ashram at Patia, Bhubaneswar				Development work carried out at patia brahmakumari Ashram	1

Batamangala Mandap at Puri				Construction of Mandap at batamangala, Puri has been completed	15
Saraswati Sisu Mandir Classroom at toilet at Mantira				Construction of 3 nos of classroom at Sisu mandir at mantira has been completed	15
Classroom at Marutikar primary School				Construction of classroom at Marutikar Primary School has been completed.	10
Brahmakumari Ashram at Anandpur				Funds Donated to Brahmakumari ashram Anandpur for the construction of Hall	8
Khudurukuni Puja Hall at Ostapal				Construction of khudurukuni Puja Hall at Ostapal has been completed	**7**
Development at Jakhapura Jagannath Temple				Construction of office and dining hall at jagannath temple of Jakhapura has been completed	**20**
Development at Mantira Jagannath Temple				Colouring of Jagannath temple at Mantira is has been completed	**8**
Temple at Khandurai				Construction of Khadurai temple at asanabahali has been completed	**5**
Puja Mandap at Danagadi				Construction of Puja mandap at Danagadi has been completed	**12**
Total			**34.00**		**190.00**

Annexure - II

Details of Decarbonization programs

S No	Description of Project	Carbon Abatement Potential (tCO2/Year)
1	Energy saving by replacing Blower Motors with IE3 motors in FM1 and FM6 Main Motor	134.79705
2	Hot Charging of Slabs in RHF for fuel saving	963
3	8.6 MWp Rooftop Solar	7463.52
4	1 MW Rooftop Solar Extension_Phase II	932.94
5	Scope of VFD in RH Furnace Combustion air fan	303.88
6	Revamping of Chiller Plant	163.3
	Total	**9961.43705**

QUALITY, ENVIRONMENT, OCCUPATIONAL HEALTH & SAFETY POLICY

Jindal United Steel Limited aims to attain product leadership in terms of high quality products, cost competitiveness, delivery and customer services through state of the art processing facilities, capability building, innovative stain-less solutions and maintaining reliable relationships with all stakeholders with a commitment to maintain environment friendly, safe, healthy and sustainable working conditions in all its operations.

We are committed to:

- Meeting and exceeding customer needs and expectations by offering quality products and prompt services.
- Comply with all applicable legal and other specific requirements to which organization subscribes.
- Environmental protection and prevention of pollution by reducing emissions, sustainable and efficient usage of natural resources.
- Prevention of injury and ill health by establishing safe working condition and adopting safe working practices as identified through occupational health & safety risk assessment.
- Review this policy periodically to ensure relevance, appropriateness and continual improvement of integrated management system with involvement of all interested parties as applicable.
- Consultation and participation of workers and their representatives at all applicable levels and functions.

Date: 1st March 2022

(Deepak Agrawal)
Unit Head

Jindal United Steel Limited
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Environment Monitoring Report (April, 2024 – September, 2024)

A. Stack Analysis:

Particulate Matter (PM):

Monitoring Results of Stack Analysis								
Sl. No.	Sampling Stations	Monthly Average Concentration of Particulate Matter (mg/Nm^3)						
		Apr.-24	May-24	June-24	July-24	Aug. -24	Sept. -24	Permissible limit
1	HSM (Re – Heating Furnace#1)	28.6	24.7	18.6	22.1	14.2	18.6	100
2	HSM (Re – Heating Furnace#2)	22.2	18.6	23.5	26.6	22.9	22.1	
3	PFS shot blaster#1	-	-	-	-	18.7	15.3	
4	PFS shot blaster#2	-	-	-	-	14.6	13.8	
5	HPL shot Blaster	-	-	-	-	20.5	13.5	

Sulphur Dioxide (SO2):

Monitoring Results of Stack Analysis								
Sl. No.	Sampling Stations	Monthly Average Concentration of Sulphur Dioxide (mg/Nm^3)						
		Apr.-24	May-24	June-24	July-24	Aug. -24	Sept. -24	Permissible limit
1	HSM (Re – Heating Furnace #1)	33.4	30.8	24.8	16.0	22.4	18.6	300
2	HSM (Re – Heating Furnace#2)	72.8	58.6	55.6	12.8	37.3	21.2	

Oxide of Nitrogen (NOx):

Monitoring Results of Stack Analysis								
Sl. No.	Sampling Stations	Monthly Average Concentration of Oxide of Nitrogen (mg/Nm^3)						
		Apr.-24	May-24	June-24	July-24	Aug. -24	Sept. -24	Permissible limit
1	HSM (Re – Heating Furnace#1)	14.2	22.1	37.4	31.4	38.4	44.3	1000
2	HSM (Re – Heating Furnace#2)	88.6	77.3	69.8	38.2	63.7	59.4	

B. Ambient Air Monitoring Report:

AAQ near Nursery

Sl. No.	Parameters	Monthly Average concentration						
		Apr.-24	May-24	June-24	July-24	Aug. -24	Sept. -24	Permissible limit
1	PM_{10} µg/m^3	73.6	75.8	69.8	76.4	84.4	82.2	100(24 Hrs)
2	$PM_{2.5}$ µg/m^3	38.9	36.8	28.4	32.5	37.9	35.4	60 (24 Hrs)
3	SO_2 µg/m^3	28.3	24.2	20.7	18.7	28.2	27.5	80(24 Hrs)
4	NO_x µg/m^3	20.9	19.6	15.4	15.5	18.3	17.8	80(24 Hrs)
5	CO mg/m^3	0.69	0.72	0.55	0.62	0.82	0.78	2 (8 Hrs)
NB: Parameters such as Lead, Ozone, Ammonia, Benzene, Benzopyrene, Arsenic & Nickel found to be below detection limit (BDL).								

AAQ near Security Barrack

Sl. No.	Parameters	Monthly Average concentration						
		Apr.-24	May-24	June-24	July-24	Aug. -24	Sept. -24	Permissible limit
1	PM_{10} µg/m^3	89.6	92.4	80.3	84.4	93.4	90.6	100(24 Hrs)
2	$PM_{2.5}$ µg/m^3	44.5	47.2	38.2	36.2	45.2	40.2	60 (24 Hrs)
3	SO_2 µg/m^3	32.2	34.2	27.6	25.8	30.8	30.4	80(24 Hrs)
4	NO_x µg/m^3	24.0	26.4	21.8	20.1	20.2	19.6	80(24 Hrs)
5	CO mg/m^3	0.75	0.87	0.77	0.88	0.95	0.92	2 (8 Hrs)
NB: Parameters such as Lead, Ozone, Ammonia, Benzene, Benzopyrene, Arsenic & Nickel found to be below detection limit (BDL).								

AAQ near PFS Scrap Yard

Sl. No.	Parameters	Monthly Average concentration						
		Apr.-24	May-24	June-24	July-24	Aug. -24	Sept. -24	Permissible limit
1	PM_{10} µg/m^3	87.7	91.8	84.6	94.6	95.5	91.8	100(24 Hrs)
2	$PM_{2.5}$ µg/m^3	42.5	44.6	40.6	42.2	45.9	41.6	60 (24 Hrs)
3	SO_2 µg/m^3	30.4	32.6	32.6	38.4	32.2	32.2	80(24 Hrs)
4	NO_x µg/m^3	20.3	26.2	22.8	24.4	21.8	20.3	80(24 Hrs)
5	CO mg/m^3	0.78	0.82	0.79	0.92	0.87	0.82	2 (8 Hrs)
NB: Parameters such as Lead, Ozone, Ammonia, Benzene, Benzopyrene, Arsenic & Nickel found to be below detection limit (BDL).								

Environment Monitoring Report (April, 2024 – September, 2024)

AAQ near HSM Utility (Store-2)

Sl. No.	Parameters	Monthly Average concentration						
		Apr.-24	May-24	June-24	July-24	Aug. -24	Sept. -24	Permissible limit
1	PM_{10} µg/m^3	71.4	72.2	70.7	75.4	80.8	80.8	100(24 Hrs)
2	$PM_{2.5}$ µg/m^3	36.6	35.0	30.4	32.8	36.7	36.7	60 (24 Hrs)
3	SO_2 µg/m^3	26.7	24.6	22.5	20.1	26.4	26.9	80(24 Hrs)
4	NO_x µg/m^3	18.8	19.4	17.8	17.6	17.4	17.4	80(24 Hrs)
5	CO mg/m^3	0.68	0.71	0.64	0.67	0.78	0.78	2 (8 Hrs)
NB: Parameters such as Lead, Ozone, Ammonia, Benzene, Benzopyrene, Arsenic & Nickel found to be below detection limit (BDL).								

C. Noise Monitoring Report:

i. Ambient Noise Monitoring Data

Noise Level Monitoring Results at Different Locations of the Plant								
Sl. No.	Location	Monthly Average Noise Level						
		Apr.-24	May-24	June-24	July-24	Aug. -24	Sept. -24	Permissible limit
		DAY TIME						
1.	At Nursery	69.4	67.5	66.9	68.0	65.5	67.2	75 dB(A)
2.	At Security Barrack	73.5	71.8	69.4	70.0	70.8	70.2	
3.	At PFS Scrap Yard	73.0	71.5	70.8	72.4	71.0	71.0	
4.	Near HSM Utility Store-2	70.8	70.2	69.4	69.2	69.8	70.8	
		NIGHT TIME						
1.	At Nursery	56.8	55.2	55.6	56.0	50.2	56.2	70 dB(A)
2.	At Security Barrack	57.4	58.2	57.6	56.2	56.6	57.4	
3.	At PFS Scrap Yard	55.2	57.4	56.6	62.2	56.2	57.6	
4.	Near HSM Utility Store-2	54.6	56.7	56.0	58.3	56.4	57.0	

ii. Plant Area Noise Monitoring Data

Noise Level Monitoring Results at Different Locations of the Plant								
Sl. No.	Location	Monthly Average Noise Level (Leq in dB(A))						
		Apr.-24	May-24	June-24	July-24	Aug. -24	Sept. -24	Permissible limit
1	Near Roughing Mill	79.2	80.1	80.4	80.4	81.2	81.4	85 dB(A)
2	Near Re heating Furnace	80.0	80.6	80.0	81.0	80.2	80.4	
3	Near PFS area	79.4	79.2	79.5	79.2	79.9	79.9	
4	Near Adm. office	79.1	79.8	80.3	80.2	80.4	79.2	
5	Near Pump house	78.8	78.4	78.1	78.3	78.6	79.6	

D. Treated Effluent Quality at HSM ETP - Outlet:

Table D-1:

Sl. No.	PARAMETER	Norm as per G.S.R. 422 (E)(Inland Surface water)	April-2024	May-2024
			Date of Sampling – 23.04.2024	Date of Sampling – 31.05.2024
1	Color	-	<5	<5
2	Suspended Solid, mg/l	100	79.4	64.3
3	Total Dissolved Solids, mg/l	2100	1367.3	1247.6
4	pH Value	5.5 to 9.0	8.3	8.1
5	Oil & grease, mg/l	10	4.6	3.8
6	Total Res. Chlorine, mg/l	1	ND	ND
7	BOD (3 days at 27^0C), mg/l	30	14.2	12.6
8	COD, mg/l	250	72.8	64.8
9	Hexavalent chromium (as Cr^{6+}), mg/l	0.1	<0.01	<0.01
10	Cyanide (as CN), mg/l	0.2	<0.02	<0.02
11	Fluoride (as F), mg/l	2	1.2	0.6
12	Sulphide (as S) mg/l	2	<1.0	<1.0
13	Phenol (as C_6H_5OH), mg/l	1	<0.05	<0.05
14	Iron (as Fe), mg/l	3	1.8	1.4
15	Nitrate Nitrogen, mg/l	10	5.2	4.2
16	Dissolved Phosphate, mg/l	5	2.2	1.6
17	Arsenic, mg/l	0.2	< 0.004	< 0.004
18	Lead, mg/l	0.1	<0.01	<0.01
19	Zinc, mg/l	5	<0.01	<0.01
20	Mercury, mg/l	0.01	<0.004	<0.004
21	Total Chromium, mg/l	2	1.0	0.8
22	Copper, mg/l	3	<0.02	<0.02
23	Nickel, mg/l	3	<0.05	<0.05
24	Manganese, mg/l	2	<0.05	<0.05
25	Vanadium, mg/l	0.2	<0.2	<0.2
26	Selenium, mg/l	0.05	<0.001	<0.001
27	Free Ammonia, mg/l	5.0	<0.01	<0.01

Table D-2:

Sl. No.	PARAMETER	Norm as per G.S.R. 422 (E)(Inland Surface water)	June -2024	July -2024
			Date of Sampling – 19.06.2024	Date of Sampling – 06.07.2024
1	Color	-	<5	<5
2	Suspended Solid, mg/l	100	84.3	82.6
3	Total Dissolved Solids, mg/l	2100	1088.6	1532.0
4	pH Value	5.5 to 9.0	8.6	8.4
5	Oil & grease, mg/l	10	2.8	4.6
6	Total Res. Chlorine, mg/l	1	ND	ND
7	BOD (3 days at 27^0C), mg/l	30	12.8	14.6
8	COD, mg/l	250	68.8	64.8
9	Hexavalent chromium (as Cr^{6+}), mg/l	0.1	<0.01	<0.01
10	Cyanide (as CN), mg/l	0.2	<0.02	<0.02
11	Fluoride (as F), mg/l	2	0.8	1.6
12	Sulphide (as S) mg/l	2	<1.0	<1.0
13	Phenol (as C_6H_5OH), mg/l	1	<0.05	<0.05
14	Iron (as Fe), mg/l	3	1.6	1.2
15	Nitrate Nitrogen, mg/l	10	3.2	5.2
16	Dissolved Phosphate, mg/l	5	1.2	2.6
17	Arsenic, mg/l	0.2	< 0.004	< 0.004
18	Lead, mg/l	0.1	<0.01	<0.01
19	Zinc, mg/l	5	<0.01	<0.01
20	Mercury, mg/l	0.01	<0.004	<0.004
21	Total Chromium, mg/l	2	0.6	0.8
22	Copper, mg/l	3	<0.02	<0.02
23	Nickel, mg/l	3	<0.05	<0.05
24	Manganese, mg/l	2	<0.05	<0.05
25	Vanadium, mg/l	0.2	<0.2	<0.2
26	Selenium, mg/l	0.05	<0.001	<0.001
27	Free Ammonia, mg/l	5.0	<0.01	<0.01

Table D_3:

Sl. No.	PARAMETER	Norm as per G.S.R. 422 (E)(Inland Surface water)	August - 2024	September - 2024
			Date of Sampling – 30.08.2024	Date of Sampling – 30.09.2024
1	Color	-	<5	<5
2	Suspended Solid, mg/l	100	87.2	73.8
3	Total Dissolved Solids, mg/l	2100	1547.6	1208.2
4	pH Value	5.5 to 9.0	8.35	8.46
5	Oil & grease, mg/l	10	4.2	5.6
6	Total Res. Chlorine, mg/l	1	ND	ND
7	BOD (3 days at 27^0C), mg/l	30	12.8	12.4
8	COD, mg/l	250	48.8	52.6
9	Hexavalent chromium (as Cr^{6+}), mg/l	0.1	<0.01	<0.01
10	Cyanide (as CN), mg/l	0.2	<0.02	<0.02
11	Fluoride (as F), mg/l	2	1.4	0.6
12	Sulphide (as S) mg/l	2	<1.0	<1.0
13	Phenol (as C_6H_5OH), mg/l	1	<0.05	<0.05
14	Iron (as Fe), mg/l	3	1.9	1.6
15	Nitrate Nitrogen, mg/l	10	5.2	6.6
16	Dissolved Phosphate, mg/l	5	2.6	2.4
17	Arsenic, mg/l	0.2	< 0.004	< 0.004
18	Lead, mg/l	0.1	<0.01	<0.01
19	Zinc, mg/l	5	<0.01	<0.01
20	Mercury, mg/l	0.01	<0.004	<0.004
21	Total Chromium, mg/l	2	0.6	0.08
22	Copper, mg/l	3	<0.02	<0.02
23	Nickel, mg/l	3	<0.05	<0.05
24	Manganese, mg/l	2	<0.05	<0.05
25	Vanadium, mg/l	0.2	<0.2	<0.2
26	Selenium, mg/l	0.05	<0.001	<0.001
27	Free Ammonia, mg/l	5.0	<0.01	<0.01

E. Fugitive Dust Emission

Monitoring Results of Fugitive Dust Emission								
Sl. No.	Sampling Stations	Concentration of Particulate Matter Below 10 micron as PM_{10} ($\mu g/m^3$)						
		Apr.-24	May-24	June-24	July-24	Aug. -24	Sept. -24	Permissible limits
1	Near PFS Entry of HSM	466.7	514.7	497.8	435.1	737.6	603.8	-
2	Near Re-Heating Furnace area of HSM	564.8	506.2	477.4	497.7	698.8	620.8	

F. Ground Water Quality: April'24

Sl. No.	Parameter	Limit as per IS 10500 :2012		Date of sampling: 23.04.2024
		Acceptable Limit	Permissible limit	Tube well near Visa Railway Crossing
1	Colour, -	-	15	<5
2	Odour	Agreeable	Agreeable	Agreeable
3	pH	6.5 - 8.5	6.5 - 8.5	7.6
4	Turbidity, NTU	1	5	<1.0
5	Total dissolve solid, mg/l	500	2000	203.0
6	Total Hardness (as $CaCO_3$), mg/l	200	600	54.6
7	Iron (as Fe), mg/l	1.0	1.0	0.4
8	Chloride (as Cl), mg/l	250	1000	52.2
9	Residual Free Chlorine, mg/l	0.2	1.0	<0.1
10	Fluoride (as F), mg/l	1.0	1.5	<0.1
11	Calcium (as Ca), mg/l	75	200	15.1
12	Magnesium(as Mg), mg/l	30	100	4.3
13	Copper(as Cu), mg/l	0.05	1.5	<0.02
14	Manganese (as Mn), mg/l	0.1	0.3	<0.05
15	Sulphate (as SO_4), mg/l	200	400	17.4
16	Nitrate (as NO_3), mg/l	45	45	10.3
17	Phenol (as C_6H_5OH), mg/l	0.001	0.002	< 0.002
18	Mercury,(as Hg), mg/l	0.001	0.001	<0.001
19	Cadmium (as Cd), mg/l	0.003	0.003	<0.01
20	Selenium (as Se), mg/l	0.01	0.01	< 0.001
21	Arsenic (as As), mg/l	0.01	0.05	< 0.004
22	Cyanide (as CN), mg/l	0.05	0.05	<0.02
23	Lead (as Pb), mg/l	0.01	0.01	<0.01
24	Zinc (as Zn), mg/l	5	15	<0.01
25	Anionic Detergents (as MBAS), mg/l	0.2	1.0	<0.1
26	Total Chromium (as Cr), mg/l	0.05	0.05	<0.05
27	Mineral Oil, mg/l	0.5	0.5	< 0.2
28	Total Alkalinity(as $CaCO_3$), mg/l	200	600	76.8
29	Aluminium (as Al), mg/l	0.03	0.2	< 0.01
30	Boron (as B), mg/l	0.5	1.0	< 0.1
31	Nickel (as Ni), mg/l	0.02	0.02	<0.02
32	Molybdenum (as Mo), mg/l	0.07	0.07	<0.05
33	Coliform Organisms, (MPN/100ml)	Nil	Nil	Absent
34	E Coli (MPN/100 ml)	Nil	Nil	Absent

G. Treated Sewage water quality:

Sl. No.	Parameter	Standard as per Govt. of India, Ministry of Housing and Urban Affairs	Analysis Result
1	pH	6.5-8.5	6.6
2	Suspended Solid, mg/l	-	10.0
3	Oil &Grease, mg/l	10.0	5.2
4	Biochemical Oxygen Demand (3 days @27oC), mg/l	10.0	4.6
5	Chemical Oxygen Demand, mg/l	50.0	15.6
6	Total Nirogen, mg/l	10.0	8.7
7	Residual Free Chlorine, mg/l	1.0	<0.1
8	Dissolved Phosphate, mg/l	5.0	0.42
9	Fecal Coliform, MPN/100ml	100.0	33.0

JINDAL UNITED STEEL LIMITED

Online Environment Monitoring Report (April, 2024 – September, 2024)

A. Continuous Ambient Air Quality Monitoring System (CAAQMS) report:

Location - Near PFS Scarp Yard

Sl. No.	Parameters	Monthly Average concentration						
		April'24	May'24	Jun'24	July'24	Aug'24	Sept'24	Permissible limits as per SPCB
1	PM_{10} (µg/m^3)	85.50	70.30	70.90	68.90	73.60	69.00	100(24 Hrs)
2	$PM_{2.5}$ (µg/m^3)	28.30	25.70	23.90	10.60	17.50	34.60	60 (24 Hrs)
3	SO_2 (µg/m^3)	16.10	15.20	16.80	14.20	14.00	14.80	80(24 Hrs)
4	NO_x(µg/m^3)	6.00	7.30	5.20	6.10	6.10	8.70	80(24 Hrs)
5	CO (µg/m^3)	0.6	0.4	0.3	0.4	0.4	2.1	02 (08 Hrs)

Location - Near Nursery

Sl. No.	Parameters	Monthly Average concentration						
		April'24	May'24	Jun'24	July'24	Aug'24	Sept'24	Permissible limits as per SPCB
1	PM_{10} (µg/m^3)	74.24	50.74	53.80	33.86	42.88	59.28	100(24 Hrs)
2	$PM_{2.5}$ (µg/m^3)	46.65	28.77	31.06	17.61	20.82	22.93	60 (24 Hrs)
3	SO_2 (µg/m^3)	28.81	51.64	52.43	43.36	24.02	26.44	80(24 Hrs)
4	NO_x (µg/m^3)	20.87	29.27	18.63	15.66	15.53	15.42	80(24 Hrs)
5	CO (µg/m^3)	0.69	0.53	0.46	0.45	0.43	0.28	02 (08 Hrs)

Location - Near Security Barrack

Sl. No.	Parameters	Monthly Average concentration						
		April'24	May'24	Jun'24	July'24	Aug'24	Sept'24	Permissible limits as per SPCB
1	PM_{10} (µg/m^3)	78.67	53.08	59.48	63.80	89.77	72.91	100(24 Hrs)
2	$PM_{2.5}$ (µg/m^3)	51.96	18.01	27.21	38.65	35.76	18.07	60 (24 Hrs)
3	SO_2 (µg/m^3)	28.44	23.59	21.77	23.17	22.53	22.08	80(24 Hrs)
4	NO_x (µg/m^3)	27.61	27.47	18.45	15.14	12.90	11.42	80(24 Hrs)
5	CO (µg/m^3)	0.55	0.36	0.26	0.22	0.23	0.20	02 (08 Hrs)

JINDAL UNITED STEEL LIMITED

Online Environment Monitoring Report (April, 2024 – September, 2024)

Location - Near CPP

Sl. No.	Parameters	Monthly Average concentration						
		April'24	May'24	Jun'24	July'24	Aug'24	Sept'24	Permissible limits as per SPCB
1	PM_{10} (µg/m^3)	57.91	48.64	61.22	46.10	45.56	67.66	100(24 Hrs)
2	$PM_{2.5}$ (µg/m^3)	30.40	18.34	26.74	18.01	23.30	20.27	60 (24 Hrs)
3	SO_2 (µg/m^3)	38.52	39.25	40.31	41.45	42.10	43.34	80(24 Hrs)
4	NO_x (µg/m^3)	21.65	21.63	23.62	22.53	21.74	21.64	80(24 Hrs)
5	CO (µg/m^3)	0.62	0.58	0.51	0.42	0.40	0.55	02 (08 Hrs)

B. Continuous Emission Monitoring System (CEMS) report:

Sl. No.	Sampling Stations	Parameters	Monthly Average Concentration of PM, SO_2 & NO_x (mg/Nm^3)						
			April'24	May'24	Jun'24	July'24	Aug'24	Sept'24	Permissible limits as per SPCB (mg/Nm^3)
1	HSM (Re – Heating Furnace#1)	PM	30.30	12.70	11.30	22.10	23.80	20.30	**100**
		SO_2	31.40	31.70	31.50	31.60	31.50	26.90	**300**
		NOx	6.7	5.8	8.0	16.40	16.10	10.00	**1000**
2	HSM (Re – Heating Furnace#2)	PM	22.70	18.20	16.60	29.80	27.80	27.30	**100**
		SO_2	72.70	15.00	16.90	15.80	15.10	15.30	**300**
		NOx	18.7	11.30	11.40	11.70	11.40	11.90	**1000**
3	PFS - Shot Blaster	PM	16.78	16.80	16.80	16.30	15.50	15.80	**100**
4	HPL - Shot Blaster	PM	17.88	22.59	19.85	17.27	18.37	10.60	**100**

C. Continuous Effluent Quality Monitoring System (EQMS) report:

Location: HPL ETP Out let

Sl. No	Parameters	Monthly Average concentration						
		April'24	May'24	Jun'24	July'24	Aug'24	Sept'24	Permissible limits as per SPCB
1	TSS	69.10	30.70	42.70	56.72	22.30	38.7	0 - 100.0 mg
2	pH	7.0	7.0	6.8	7.4	8.6	6.9	5.5 - 9.0 pH