JSW Steel Limited

Dolvi Works:
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Dolvi, Taluka - Pen,
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BY COURIER

November 28, 2022

JSWSL/ENV/MoEF&CC/2022

To

The Regional Officer,
Ministry of Environment, Forest and Climate Change,
Regional Office (WCZ), Ground Floor,
East Wing, New Secretariat Building,
Civil Line, Nagpur-440001

Sub: Six monthly compliance report of EC conditions for i) 3.0 MTPA steel plant, ii) expansion from 3 to 5 MTPA integrated steel plant and iii) expansion from 5 to 10 MTPA integrated steel plant of JSW Steel Ltd. located at Geetapuram, Village Dolvi, Tehsil Pen, District Raigad, Maharashtra.

Ref: i) Environmental Clearance for 3 MTPA vide letter No J-11011/4/96–IA–II dated 31-12-1996.
ii) Environmental Clearance for expansion of steel plant from 3 to 5 MTPA vide letter No J-11011/166/2011-IA-II(I) dated 21-11-2012.
iii) Environmental Clearance for expansion of steel plant from 5 to 10 MTPA vide letter No J-11011/176/2013-IA-II(I) dated 25-08-2015.
iv) Environmental Clearance for changes in configuration for proposed expansion of integrated steel plant from 5 to 10 MTPA vide letter No J-11011/76/2013-IA-II(I) dated 16/06/2020

Sir,

With reference to above, please find enclosed herewith six monthly compliance report of EC conditions for following:

i) Environment Clearance for 3.0 MTPA steel plant – **Annexure I**
ii) Environment Clearance for expansion from 3 to 5 MTPA integrated steel plant - **Annexure II**
iii) Environment Clearance for expansion from 5 to 10 MTPA integrated steel plant of JSW Steel Ltd., Dolvi Works – **Annexure III**
iv) Environment Clearance for changes in configuration for proposed expansion of integrated steel plant from 5 to 10 MTPA vide letter No J-11011/76/2013-IA-II(I) dated 16/06/2020 – **Annexure IV**

Submitted for kind information & records please.

Thanking you,

Yours faithfully,
For JSW Steel Limited

Dr. Anand Rai
Vice President (Head - Environment)

CC: 1) The Director, MoEF&CC, Indira Paryavaran Bhawan, Jor Bagh, Lodi Road, New Delhi-110003.
2) The Zonal officer, CPCB, Parivesh Bhawan, Opp. VMC Ward Office No. 10, Subhanpura, Vadodara-390 023, Gujarat.
3) The Regional Officer, MPCB, Raigad, Raigad Bhavan, CBD Belapur, Navi Mumbai

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Annexure I

COMPLIANCE CONDITIONS OF LETTER No J-11011 / 4 / 96 – IA – II dated 31-12-1996.

Subject: 3.0 MTPA integrated Steel Plant at Raigad District, Maharashtra by M/s. JSW Steel Ltd.

Ref: Environmental Clearance for 3 MTPA steel plant vide letter No J-11011/4/ 96 – IA–II, dated 31-12-1996 & vide letter No J-11011/76/2013-IA II(I), dated July 30, 2015.

The status report on stipulated Environmental condition, point-wise explanations are as follows.

S. NO	ENVIRONMENTAL CLEARANCE CONDITIONS	COMPLIANCE STATUS AS ON OCTOBER 2022
i)	The project authorities must strictly adhere to the stipulations made by the Maharashtra Pollution Control Board and the State Government.	JSW Steel Ltd., Dolvi works has obtained Consent to operate for all plants from Maharashtra Pollution Control Board and following the guidelines given by Maharashtra Pollution Control Board (MPCB) Consent conditions and State Government time to time.
ii)	No expansion or modifications of the plant should carried out without prior approval of this Ministry	• Expansion or modifications of the integrated steel plant is being carried out after obtaining prior approval from the MoEFCC. • Obtained Environment Clearance (EC) from MoEFCC for Expansion of Integrated Steel Plant capacity from 3 to 5 MTPA (vide letter No J-11011/166/2011-IA-II (I) dated 21st November 2012) • Obtained EC for Expansion of Integrated Steel Plant capacity from 5 to 10 MTPA from MoEFCC (vide letter No J-11011/76/2013-IA II(I), dated July 30, 2015).
iii)	The Gaseous emissions from various process units should confirm 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 should go beyond the prescribed standards. In the event of failure of any pollution control system	• The company has installed adequate Air Pollution Control measures like Bag Filters, ESPs, Wet scrubbers, Dry Cyclones in each unit of the plant to control the emission level within the MPCB / CPCB norms. • Conditions of Consent to operate as prescribed by MPCB is being complied. • Gaseous emissions from the process units are well within the prescribed standards as notified by the Ministry. • The pollution control systems in the plants are inbuilt system, which are directly

	adopted by the unit, the respective unit should be put out of operation immediately and should not be restarted until the control measures and rectified to achieve the desired efficiency.	connected with plant process.

iv)	At least five ambient air quality monitoring stations should be provided in consultation with the State Pollution Control Board for measurement of SO2, NOx, Particulate Matter etc. Stack emissions should also be monitored regularly by setting up automatic stack monitoring facilities. Data on stack emissions also with the ambient air quality and work environment air quality should be submitted along with statistical analysis to the state pollution control board once in three months and to this Ministry once in six months.	• Five Continuous Ambient Air Quality Monitoring stations have been installed in consultation with MPCB. All these stations are connected to URL of MPCB & CPCB & data is being transmitted online on real time basis for PM2.5, PM10, SO2, NOx & CO.
		• 32 Nos. Continuous Stack Emission Monitoring systems are installed at all major stacks & connected to URL of MPCB & CPCB & data is being transmitted online on real time basis.
		• Data on Stack Emission, Ambient Air Quality and Work Environment Air Quality are monitored and submitted as per guidelines to;
		  • MPCB - Once in three months, also as & when required,
		  • MOEF&CC, Nagpur & Delhi – Once in Six month,
		  • CPCB, New Delhi – Monthly basis

v	In plant control measures for checking fugitive emissions, spillage of chemicals / raw materials etc. should be provided and properly maintained specially in the critical areas like blast furnace, sintering plant etc.	Various measures have been provided to control the fugitive emissions; • Dust Suppression such as; - Dry Fog System / Water spraying in junction houses / Transfer Towers at Raw Material Handling System (RMHS) & other units. - All the Junction houses and Conveyors are covered to avoid fugitive emissions while transfer of material through conveyor. - Constructed Covered Sheds for Raw Material storage (Coal, Coke, Iron Ore Pellets and Fluxes) - Cyclone with Venturi Scrubbing system at Sponge Iron Plant, SMS and Gas Cleaning Plant at Blast Furnace. - Vacuum based road sweeping machines and mist type mobile water tankers are provided for control of road emissions.

		• Dust Extraction system with bag filters have been provided for; 1) Blast Furnace 1 - Stock House – Bag Filters and Cast House – Reverse Air Bag Filter & ESP. 2) Sinter Plants – ESP & Bag Filters 3) Steel Melting Shop (SMS) 1 – Gas Cleaning Plants (GCPs) 1, 2, 3 & 4 with Bag Filters for primary & secondary fume extraction system. In SMS 1- Modification of GCPs 1, 2 & 3 by increasing the capacity of ID Fan, modified Bag filters, HTQ and mixing chamber to control the fugitive emissions. 4) Lime Calcination plants – Installed De-dusting system with Bag filters at Kiln, Lime and Lime stone handling areas.
vi	Adequate effluent treatment facilities should be provided so that the treated effluent conforms to the prescribed standards.	• Adequate effluent treatment facilities have been provided at all units and the treated water is recycled back in the process. • In Blast Furnace 1, Steel Melting Shop (SMS) 1, Hot Strip Mill (HSM) 1 the water system are closed loop system. • In Sponge Iron Plant, the scrubbed water is treated in Classifier, Clarifier, High rate thickner and routed through Sludge pond wherein the sludge is separated and water reused for Electric Arc Furnace (EAF) slag cooling at SMS1. • There is no waste water discharge outside the plant.

vii	Adequate number of influent and effluent quality monitoring stations should be set up in consultation with the state Pollution Control Board. Regular monitoring should be carried out for the relevant parameters. Routine toxicology test of effluent with fish and fish food organisms should also be regularly done at least once in a month. Monitored data along with statistical analysis and interpretation in the form of report should be submitted to this Ministry once in six months and to the state pollution Control Board once in three months.	• There is no discharge of waste water from the plant to outside, however, water & wastewater sampling points have been set up in consultation with MPCB. • Regular monitoring is being carried out; Toxicology test of effluent with fish is being done once in a month. • All monitoring reports are submitted as per guidelines to; 1) MPCB - Once in three months, also as & when required, 2) MOEF&CC, Nagpur & Delhi – Once in Six month, 3) CPCB, New Delhi – Monthly basis
viii	There will be no discharge of treated effluents outside the plant premises. The treated effluent should be recycled and reused as process water. Treated domestic waste should be used for development of green belt.	• As mentioned above in point - vi. • Water pollution control systems are provided in all plants and the treated water is recycled in the process and reused for EAF slag cooling and dust suppression. • Treated domestic water from the Sewage Treatment Plant is used for plantation purpose. There is no waste water discharge from the plant.
ix	Fresh water should not utilized as cooling water. The cooling water drawn from the creek should be discharged into the creek at an outfall point recommended by NIO. Feasibility of recycling the cooling water should also be evaluated and the report should be submitted to the Ministry within three month.	• Cooling water is re-circulated in the system / process after treatment in close loop treatment facility and only makeup water is added. • No water is either drawn or discharged into the creek.
x	No Coke oven plant should be set up without the approval of this Ministry.	• **Coke Oven plant** has been set up after obtaining of separate EC from MoEF&CC vide letter No J-11011/286/2007-IA-II(I) dated 12/01/2009.
xi	Guard pond of sufficient holding capacity should be provided to cope up with the effluents discharged due to process disturbances. The contributing units shall be immediately shutdown and will not be restarted without bringing the system back to normalcy. Details of design and	• The water table of the sub surface water is very high, therefore the technically not feasible to construct guard pond below ground level for holding wastewater. Therefore, Guard pond has not been constructed. • However, wastewater treatment system is

	capacity of the guard pond should be submitted to the Ministry within a period of 6 months.	installed at various units and the treated waste water is recycled / reused.
xii	A perspective plan for 100 % utilization of slag should be prepared and submitted to this Ministry within six months for approval. The project authorities in their own interest should have a long term to tie-up with the user industry like cement.	• 100% granulated slag of Blast furnace is used in Cement Plant for making of Cement in JSW Group Company (JSW Cement Ltd).
xiii	Raw materials should be brought to the plant site by sea / rail to the extent possible. Finished products should also be transported through road should kept to the bare minimum to avoid any traffic congestion in the area and cities.	• All the raw materials are being brought to the plant site by sea route through our captive jetty • Finished products (HR Coils) are transported through rail / sea and minimum by road.
xiv	A green belt of adequate width and density should be provided in all around the plant in consultation with the State forest Department, specially selecting local species. About 2500 plants per HA of the land should be provided. 30 % of the total land area should be developed as green belt.	• Green Belt of adequate width is being developed • Rs 3.04 Crores spent on Mass plantation drive for a target of One Million tree plantations in and outside the premises & in nearby villages are being carried out (2016-2022 (up to October 2022). • We have entered into a tripartite agreement with an NGO – TERRE of Pune for plantation. • Programs for making people aware of importance of plantation are being done through Gram-Panchayat. No of trees planted up to date Big Trees 209492 Nos Small Trees 666247 Nos Lawn Development 4593646 Square Feet. Total Plantation inside the plant premises is approximately 84 Acres. Outside plantation is 124 Acres (50 Hectares) Mangrove Plantation 766 Acres (310 Hectares) covered. Total expenditure on horticulture For the year 2021-22 is Rs 6.4882 Crores For the year 2022-23 (Up to Octo 2022) is Rs 4.41 Crores
xv	Approval from the Sate Government should be obtained for quarrying the adjacent hillocks to obtain fill materials for leveling the proposed site to 3 – 3.5 m	• The fill material taken form authorized material suppliers for leveling of site. • The creek or the river has not been dredged for leveling the site.

	above MSL. The creek / river should not be dredged to be obtained fill material for leveling the site. The project proponent should also take adequate care to ensure that run off material does not flow into the river / creek during the site leveling.	• All requisite steps were taken to ensure that the run off material do not flow into the river/creek during site leveling.
xvi	Approval under CRZ notification should be obtained for the extension of the existing jetty. The proposed storages facilities should beyond 150 m from HTL of creek / river.	Approval for CRZ Clearance obtained for construction and expansion of jetty. • The Raw material is stored beyond 150 m from HTL of Creek / river.
xvii	The project authorities should set up laboratory facilities for collection and analysis of samples under supervision of the competent technical personnel. Who will directly report to the Chief Executive.	Environmental Laboratory is in place for collection and analysis of samples under the supervision of competent technical personnel and he is directly reporting to President.
xviii	A environment Management cell should be established with suitably qualified people to carry out various functions under the control of the Senior Executive who will report directly to Head of the Organization.	An Environment Management cell is established with qualified people to carry out various functions under the control of the Senior Executive who reports directly to Head of the Plant.
xix	Medical surveillance of workers especially w r t the pneumoconiosis etc. should be done regularly and records maintained.	As per the Factories Act, regular health checkups done for workers and employees & records are maintained on regular basis.
xx	The funds earmarked for the Environmental protection measures should not be diverted for other purpose its break up and year wise expenditure should be reported to this Ministry.	• The funds earmarked for environmental protection is utilized for the same purpose. Environmental expenditure for the year 2021-22 for operation and maintenance cost, Power cost, Treatment Cost for Pollution Control systems and Solid Waste Management are Rs 369 Crores.
3	This Ministry or any competent authority may stipulate any further conditions or alternations in the existing conditions after review of the compliance report and other reports submitted by the project proponent from time to time.	Noted and the plant shall be complied as per the conditions stipulated by competent authority.
4	The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.	Noted
5	The above conditions will be enforced, inter-alia under the provisions of the water (Prevention& Control of Pollution) Act 1974, the Air (Prevention and Control	The plant is regularly complying for • The water (Prevention& Control of Pollution) Act 1974 • The Air (Prevention and Control of Pollution)

	of Pollution) Act, 1981, the Environment (Protection) Act 1986 and the Public Liability Insurance Act, 1991 along with their amendments and rules.	Act, 1981 • The Environment (Protection) Act 1986 • The Public Liability Insurance Act, 1991 along with their amendments and rules.

Annexure II

COMPLIANCE CONDITIONS OF File No J-11011/166/2011-IA-II (I) dated 21st November 2012.

Sub: Expansion from 3.0 MTPA to 5.0 MTPA Integrated Steel Plant along with installation of Pellet Plant - 4.0 MTPA and 300 MW Captive Power Plant at Geethapuram, Village Dolvi, Tehsil Pen, District Raigad in Maharashtra by M/s JSW Steel Limited.

Ref: Environmental Clearance for expansion of integrated steel plant from 3 to 5 MTPA vide letter No J-11011/166/2011-IA-II (I) dated 21st November 2012 & vide letter No J-11011/76/2013-IA II(I), dated July 30, 2015.

Sr. No.	ENVIRONMENTAL CLEARANCE CONDITIONS	COMPLIANCE STATUS AS ON 30TH OCTOBER 2022
1	Waste gases from Blast furnace and coke ovens will be utilised for power generation. Fugitive emissions from raw material handling section will be suppresses by dry fogging system / water sprinkling.	• Waste Gas from Blast Furnace (BF) and Coke Oven Gas (COG) is used in 55 MW Captive Power Plant and other plants as fuel. • Gas Holders provided for storing the Coke Oven Gas, LD and BF Gases. Gas Holder will help the steady network flow for distribution of gas in constant pressure (Operating pressure 996 mmWC. Also it helps to proper utilization of waste gases. Total CO2 Savings will be approximately 660000 Ton of CO2 per year. Energy saving approximate 1 Million Gcal/Year • **De-dusting System with Bag filters** at Junction houses of raw material handling section in Blast Furnace and Coke Oven Plants. De-dusting System with Bag filters at Stock House - 2 Nos Cast house fume extraction system with Bag Filters

		• **Dust suppression by dry fog systems / water spraying systems** provided at Raw Material Handling Section (RMHS) and other applicable areas. • All conveyors and Junction houses of Raw Material Handling systems are closed system. • Total Investment on Yard sprinklers, De-dusting system and Dry fogging system Rs 77.29 Crores Details of covered shed for storage of Raw Material; • Covered shed for Jetty yard-A with a capacity of 110,000MT for Coal Storage • Covered shed for Jetty yard-B with a total capacity of 305,000 MT for Iron Ore and Flux. • Covered Sheds (2 Nos) for Pellet and Coke Storage of Capacity-1,20,000 MT each. • Covered shed for storing Iron Ore Bearing Material and Flux is in progress. <u>Environmental Benefits of Covered Shed:</u> • No fugitive emission during handling of material • No water contamination during rains • No spillage of material on roads • Covered storage shed will prevent dust emission in the environment during operation of the yard. To control the fugitive emissions in **Coke Oven Plant, following Control Measures are provided;** • **Bag Filters** for coal crushing & mixing station & route • **Ground De-dusting system with Bag Filters** – connected to charging and pushing, primary crusher, coke cutter, secondary coke crusher area • **Bag Filters** for coke screen house & Silo. • **Dust suppression system** at all the transfer points, coal handling and coke

		handling route.
2	The makeup water requirement for the proposed expansion will be 2,590 m^3/day and the existing consumption is 833.3 m3/day, which shall be sourced from the State Water Resources Dept. from Nagothane dam at K.T. Bandhara. Maximum recycling of wastewater will be done after treatment to achieve zero discharge. Treated wastewater will be used for dust suppression and green belt development. Effluent streams such as cooling tower blow down, floor washings etc. will be used for fugitive dust suppression, water sprinkling etc. Sewage will be treated in septic tanks. Bag filter dust will be recycled in the process. Blow down water from power plant will be reused in steel melting shop slag yards for spraying on hot slag. Blow down water from Blast furnace recirculation system will be reused in the slag granulation plant as make up water to SGP recirculation water system. Treated waste water from coke oven by products plant will be used in the system itself.	• The makeup water requirement for the proposed expansion is limited to 2590 m3/hr (inadvertently mentioned as m3/day) besides the existing consumption for 3 MTPA plant • The water is sourced from the Nagothane dam at K.T. Bandhara as per the allocation from the Water Resources Department of Maharashtra. • Treated waste water & cooling tower blow down (CTBD) are used for dust suppression, slag cooling & plantation. There is no waste water discharge form the plant. • Sewage is treated in septic tanks & STPs & reused for gardening. • Bag Filter dust is recycled & reused in the process of Sinter & Pellet Making. • Blow down of power plant is used in SMS slag recovery plant for dust suppression. • Blow down water from Blast furnace 1 recirculation system is reused in the slag granulation plant (SGP) as make up water to SGP recirculation water system. • Treated water from Coke oven by-product is used in coke quenching
3	BF slag will be granulated and used for cement manufacturing. Slag from SMS production will be used in the sinter plant, in land / road / area development or for manufacturing of insulated bricks etc. Mill scale, flue dust from the blast furnace, dust from the bag filters will be used in Sinter plant. All pumps and motors will be selected from less noise generating types. Ear plugs will be provided to employees working in high noise prone areas. DG set will be provided with silencer.	• 100% granulated slag of Blast furnace - 1 is used in Cement Plant for making of Cement in JSW Group Company. • SMS- EAF slag is used in the sinter plant, in internal roads / land reclamation, area and construction of concrete structures and road construction in National Highways. • Mill scale, flue dust from Blast Furnace 1, dust from Bag Filters used in Sinter plant. • GCP dust from SMS 1 is used in Sinter

		Plant and Pellet plant • Low noise level pumps and motors are used. • Ear plugs / Ear muffs provided to all employees working in high noise prone areas. • DG sets having provided with silencer.
4	All the integrated steel plant are listed as S. No 3 (a) as Primary Metallurgy Industries under category A of the Schedule of EIA Notification 2006 and appraised by the Expert Appraisal Committee (Industry-I) of MoEF.	Complied as per the EIA Notification 2006 and as per the EC conditions stipulated by MoEFCC for integrated steel plant listed as S.No 3 (a) as Primary Metallurgy Industries under category A
5	The proposal was considered by the expert Appraisal Committee -1 (industry) in its 37th Meeting held during 14th and 15th June 2012. The Committee recommended the proposal for Environmental clearance subject to stipulation of specific conditions along with other environmental conditions. Public hearing was conducted on 28.02.2012.	Industry is complying all the general conditions and specific conditions stipulated in the Environment Clearance. Complied the points raised during Public Hearing.
6	Based on the information submitted by you, presentation made by you and consultant, M/s. MECON Limited., Ranchi, the Ministry of Environment and Forests hereby accords Environmental clearance to the above project under the provision of EIA Notification dated 14th September 2006 subject to strict compliance of the following specific and general conditions.	Industry is complying the general conditions and specific conditions stipulated in the Environment Clearance under the provision of EIA Notification 2006.
Specific Conditions;		
i	Measures shall be undertaken to mitigate particulate levels in the ambient air and a time bound action plans shall be submitted. On-line ambient air quality monitoring with proper O&M and continuous stack monitoring facilities for all the process stacks shall be provided and sufficient air pollution control devices viz. Electrostatic precipitator (ESP), gas cleaning plant, scrubber, bag filters etc. shall be provided to keep the emission levels below 50 mg/Nm3 by installing energy efficient technology.	• Adequate dust control measures (Bag filters, ESPS, Venturi Scrubbers, Cyclones) have been provided to all the units to mitigate particulate levels in the ambient air quality. Environmental monitoring parameters are well within the prescribed standards as per the Consent granted by MPCB. • Five Continuous Ambient Air Quality Monitoring stations have been installed in consultation with MPCB. All these stations are connected to URL of MPCB

		& CPCB & data is being transmitted online on real time basis for PM2.5, PM10, SO2, NOx & CO with proper O&M • Continuous Stack Emission Monitoring systems are installed at all major stacks (Process stacks) & connected to URL of MPCB & CPCB & data is being transmitted online on real time basis. • Electrostatic precipitator (ESPs), gas cleaning plants, scrubbers, bag filters etc. are provided to all units & PM levels are well within the prescribed norms as per MPCB Consent conditions.
ii	As proposed, Electrostatic precipitator (ESP) shall be provided to sinter / Pellet plant, WHRB, DE Plants and dust catcher followed by venturi scrubbers to blast furnace to control SPM levels within 50 mg/Nm3. Fume extraction system shall be provided to induction furnaces to control the emissions within the prescribed standards.	• Electrostatic precipitator provided in Blast Furnace 1, Sinter Plants & Pellet plant, • Cast House Fume Extraction System, Waste Heat Recovery Boiler (WHRB), Dust Extraction System and dust catcher followed by venturi scrubbers, de-dusting system with bag filters in stock houses in Blast Furnace are provided. • The emission level from the stacks are well within the prescribed standards. • JSW Steel Ltd., Dolvi, there is no Induction Furnace installed, however in Steel Melting Shop 1 (SMS1) - Gas Cleaning Plants (4 Nos) with bag filters provided with primary and secondary fume extraction systems & emission level well with in the prescribed standards. The existing Gas Cleaning plants were modified and the guaranteed parameters of PM level in stacks are < 50 Mg/Nm3
iii	The National Ambient Air Quality Standards issued by the Ministry vide G.S.R. No. 826 (E) dated 16th November, 2009 shall be followed.	On line Ambient air quality monitoring system (5 Nos) installed in the plant for the parameters PM10, PM2.5, SO2, NOx, CO and the data is uploaded in the CPCB and MPCB servers.
iv	Gaseous emission levels including secondary fugitive emissions from all the sources shall be	Adequate measures have been taken to control the gaseous emission levels.

	controlled within the latest permissible limits issued by the Ministry and regularly monitored. Guidelines/Code of Practice issued by the CPCB shall be followed. New standards for the sponge iron plant issued by the Ministry vide G.S.R. 414 (E) dated 30th May, 2008 should be followed.	• Secondary fugitive emissions at Blast Furnace 1 - Cast House de-dusting system with Bag filters, Stock House de-dusting system with Bag filters. • Gas Cleaning Plants (4 Nos) for Electric Arc Furnace (EAF) of SMS1 from all the sources and are well within the permissible limits issued by the Ministry and regularly monitored. • A new standard for the sponge iron plant issued by the Ministry vide G.S.R. 414(E) dated 30th May, 2008 is being followed. As per the guidelines the monitoring for stack emissions, work place monitoring etc. are carried out and the reports are within the CPCB norms.
v	Total makeup water requirement for expansion shall not exceed 2,590 KLD. Efforts shall further be made to use maximum water from the rain water harvesting sources. Use of air cooled condensers shall be explored and closed circuit cooling system shall be provided to reduce water consumption and water requirement shall be modified accordingly. All the effluent should be treated and used for ash handling, dust suppression and green belt development. No effluent shall be discharged and 'zero' discharge shall be adopted. Sanitary sewage should be treated in septic tank followed by soak pit.	• The makeup water requirement for the proposed expansion is within the water allocated and less than 2590 m3/hr. • Roof Top Rain water harvesting system have been implemented. • Closed circuit cooling towers are provided to optimize water consumption. • All effluent is treated & recycled in the process and reused in slag cooling, dust suppression & plantation purpose. • No waste water is discharged to outside the plant premises except run off during monsoon. • Septic tank followed by soak pits provided in all plant areas. • Sewage Treatment Plants (STP) 3 Nos provided for treatment of sewage. The treated sewage water is used for gardening.
vi	Efforts shall be made to make use of rain water harvested. If needed, capacity of the reservoir should be enhanced to meet the maximum water requirement. Only balance water requirement shall be met from other sources.	• Roof top Rain water harvesting system has been established (at 12 various buildings of Oxygen Plant, Coke Oven, Power Plant, MRSS and Admin.) • The harvested rain water is being used in the cooling towers as make up

		water. • Since the water table is very high, therefore recharging ground water table is not feasible.
vii	Regular monitoring of influent and effluent surface, sub-surface and ground water (including chromite) should be ensured and treated wastewater should meet the norms prescribed by the State Pollution Control Board or described under the E (P) Act whichever are more stringent. Leachate study for the effluent generated and analysis shall also be regularly carried out and report submitted to the Ministry's Regional Office at Bhopal, SPCB and CPCB.	• Regular monitoring of influent and effluent surface, sub-surface is being done by MoEF approved and NABL accredited labs & the results of all parameters are well within the prescribed standards. The plant is not using any ground water. • Analysis reports are submitted to the Regional Office, MoEF&CC, MPCB & CPCB on regular basis. All monitoring reports are submitted as per guidelines to; • MPCB - Once in three months, also as & when required, • MOEF&CC, Nagpur & Delhi – Once in Six month, • CPCB, New Delhi – Monthly basis
viii	The water consumption shall not exceed as per the standard prescribed for the steel plants.	Water consumption is well within the prescribed norms & CREP guidelines for the steel plants (less than 5 m3/ton of crude steel) Specific water consumption for the steel plant for 2022-23 (Up to October 2022 is 2.59 M3/TCS
ix	Vehicle pollution due to transportation of raw material and finished products shall be controlled. Proper arrangements shall also be made to control dust emissions during loading and unloading of the raw material and finished product.	• Transportation of raw material is mainly through sea route to captive jetty and further to the steel plant via closed conveyors. • Rs 228 Crores have been spent for covered shed for storage of raw material like coal, Iron Ore and Flux at Jetty & Raw Material storage yard to control the dust emission. • Transportation of finished products is mainly by rail. • Adequate dust suppression systems have been provided to control dust emissions during loading and unloading of the raw material and finished product. Dust Suppression such as;

		- Dry Fog System / Water spraying in junction houses / Transfer Towers at Raw Material Handling System (RMHS) & other units. - All the Junction houses and Conveyors are covered to avoid fugitive emissions while transfer of material through conveyor.
x	All internal roads shall be black topped. The roads shall be regularly cleaned with mechanical sweepers. A 3 tier avenue plantation using native species shall be developed along the roads.	• All internal roads are concreted & Vacuum based road sweeping machines (6 Nos) and mist type mobile water tankers (2 Nos) are provided for control of road emissions. • Avenue plantation using native species have been planted along the roads.
xi	Proper handling, storage, utilization and disposal of all the solid waste shall be ensured and regular report regarding toxic metal content in the waste material and its composition, end use of Solid/hazardous waste should be submitted to the Ministry's Regional Office at Bhopal, SPCB and CPCB.	Proper handling, storage, utilization and disposal of all the solid wastes like Iron ore fines, coke fines, fluxes and scales generated from the plant is used in Sinter Plants & Pellet Plant. Material have been shifted through conveyor, closed bulkers and loaded by pneumatic conveying system. The report of Solid wastes and Hazardous wastes generation and disposal are regularly submitted as mentioned below. • MPCB - Once in three months, also as & when required, • MOEF&CC, Nagpur & Delhi – Once in Six month, • CPCB, New Delhi – on Monthly Basis.
xii	Proper embankment shall be provided for the sludge disposal area.	• Proper embankment provided to contain sludge at all generating points- Sponge Iron Plant, Blast Furnace 1 and Hot Strip Mill 1. • Sludge generated from the Effluent treatment plants (Sponge Iron Plant, Blast Furnace, are used in sinter making & Pelletization process. • In sludge handling areas filter press and vacuum drum filters installed at Sponge Iron Plant, Hot Strip Mill and Blast Furnace.

xiii	Risk and Disaster Management Plan along with the mitigation measures shall be prepared and a copy submitted to the Ministry's Regional Office at Bhopal, SPCB and CPCB within 3 months of issue of environment clearance letter.	Risk and Disaster Management plan is prepared and has been already submitted to MoEF&CC.
xiv	As proposed, green belt shall be developed in 33 % of plant area as per the CPCB guidelines in consultation with the DFO.	As per the EC FJ-11011/76/2013-IA.II(I) dated 16/06/2020, Green belt shall be developed 250 acres in the plant premises and outside the plant 510 acres outside the plant The expansion of the steel plant from 3 to 5 to 10 MTPA in contiguous to earlier facilities, Accordingly, Green Belt is being developed in and outside premises as recommended by the EAC, MoEF&CC in the next 5 years once the expansion projects are completed. No of trees planted up to date Big Trees 209492 Nos Small Trees 666247 Nos Lawn Development 4593646 Square Feet. • Total Plantation inside the plant premises is approximately 84 Acres. • Outside plantation is 124 Acres (50 Hectares) • Mangrove Plantation 766 Acres (310 Hectares) covered. • Rs 3.04 Crores spent on Mass plantation drive for a target of One Million tree plantation in and outside the premises & in nearby villages is being carried out (2021-22). • Rs 6.49 Crores spent on plantation for the year 2021-22 (Up to March 2022). • Rs 4.41 Crores spent on plantation for the year 2022-23 (Up to October 2022). • Programs for making people aware of importance of plantation are being

		done through Gram-Panchayat.
xv	All the recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the Steel Plants should be implemented.	The recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the steel plants are implemented. • Coke oven plant – Tar sludge / ETP sludge are reused in the Coking process. • Blast Furnace – Energy recovery of top blast furnace gas is being done with power generation through TRT by using top pressure of BF gas. • Coke Oven Plant – Coke Dry Quenching systems (3 Nos) (CDQ) installed and recover the sensible heat of red hot coke, reduce energy consumption and pollution and improve the quality of coke. Each CDQ will reduce water consumption by 1920 m3/day and energy of 70 MW will be recovered along which will reduce the CO2 emissions by approx. 10.9 Lac.t CO2eq • Steel Melting Shop (SMS), secondary de-dusting system (Gas Cleaning Plants 4 Nos) has been installed to control fugitive emissions • Coal Injection Plant for direct injection of pulverized coal in furnace has been implemented. Present rate of CDI in our Blast Furnace is 150 Kg/THM (average for the year 2021-22). • BF Slag- 100% utilized in Cement plant. • EAF slag- 100 % for construction activities, land filling in the low lying areas of expansion projects and is also being used for internal road making and Concrete and asphalt roads in National Highways. • Cast House Fume extraction system inclusive of tap holes, runners, skimmers, ladle and charging points have been provided to control Fugitive emissions from Blast Furnace.

		• The specific water consumption for the year 2022 – 23 (April to Oct 2022) was 2.59 m3/t of crude steel which is well below the targets for flat products and as well as for long products. • Online Stack Monitoring System have been installed on all major stacks (32 Nos) and 5 Nos Online Ambient Air Quality Monitoring System. The real time data is interlinked with MPCB and CPCB server.
xvi	The company shall adopt well laid down corporate environment policy and identified and designate responsible officers at all levels of its hierarchy for ensuring adherence to the policy and compliance with environmental clearance, environmental laws and regulations.	Environment Policy is in place and being complied in adherence to Environmental Clearance, Environmental Laws and Rules and Regulations.
xvii	All the commitments made to the public during the Public Hearing / Public Consultation meeting held on 28th February, 2012 should be satisfactorily implemented and a separate budget for implementing the same should be allocated and information submitted to the Ministry's Regional Office at Bhopal.	The commitments made to the public during the Public Hearing / Public Consultation meeting held on 28th February, 2012 is being implemented and a separate budget is maintained for implementing the projects/ issues under CSR activities.
xviii	At least 5 % of the total cost of the project should be earmarked towards the Enterprise Social Commitment based on Public Hearing issues and item-wise details along with time bound action plan should be prepared and submitted to the Ministry's Regional Office at Bhopal. Implementation of such program should be ensured accordingly in a time bound manner.	CSR activities in various sectors are being done in the surrounding villages and a time bound action plan for various CSR activities have been submitted to MoEF&CC as per EAC recommendation of 2.5% of project cost. **Amount spent on CSR Activities:** For 2022-23 (April to October 2022): Rs 9.72 Crores The above amount has been spent on Social Development- (Education & Training), Skill Development, Water and Sanitization, Agriculture, Rural Development, Health, Solid Wastes and Community Development.

xix	The company shall provide housing for construction labour within the site with all necessary Infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.	Complied the conditions during installation of the plant. Provided housing for labour within the site with all necessary Infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche etc. After completion of the project activities the temporary structures have been dismantled and removed.
General Conditions:		
i	The project authorities must strictly adhere to the stipulations made by the Maharashtra State Pollution Control Board and the state government.	All the terms & conditions stipulated by Maharashtra Pollution Control Board (MPCB) and State Government are being followed.
ii	No further expansion or modification in the plant shall be carried out without prior approval of the ministry of Environment and Forests.	As per the EC conditions, expansion or modifications of the plant was done. All expansion activities are being done after obtaining prior EC from MoEF&CC.
iii	The gaseous emission 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 Boards may specify more stringent standards for the relevant parameters keeping in view the nature of the industry and its size and location.	Adequate Air Pollution Control measures have been provided to each unit of the plant and the Gaseous emissions from the process units are well within the prescribed standards as notified by the Ministry. Complied the Consent conditions as per the Maharashtra Pollution Control Board under The Air Act, The Water Act and Hazardous Waste Management & handling and Transboundary Rules.
iv	At least four ambient monitoring stations should be established in the downward direction as well as where maximum ground level concentration of PM10, SO2 and NOx are anticipated in consultation with the SPCB. Data on ambient air quality and stack emission shall be regularly submitted to this ministry including its regional office at Bhopal and the SPCB/CPCB ones six months.	• Five Continuous Ambient Air Quality Monitoring stations have been installed in consultation with MPCB. All these stations are connected to URL of MPCB & CPCB & data is being transmitted online on real time basis for PM2.5, PM10, SO2, NOx & CO. • 32 Nos. Continuous Stack Emission Monitoring systems for plants under 5 MTPA (Phase I) are installed at all major stacks & connected to URL of MPCB & CPCB & data is being

		transmitted online on real time basis.
		
		• Data on Stack Emission, Ambient Air Quality and Work Environment Air Quality are being submitted to;
		  • MPCB - Once in three months,
		  • MOEF&CC, Nagpur & Delhi – Once in Six month,
		  • CPCB, New Delhi – Monthly basis

v	Industrial wastewater 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 wastewater shall be utilised for plantation purpose.	Industrial Waste water generated from the plant is treated in the plants and reused in the process/ slag cooling purpose. There is no discharge of industrial waste water to outside the plant premises.
vi	The overall noise level in and around the plant area shall be kept well 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 level should conform to the standards prescribed under EPA rules, 1989 viz. 75dBA (daytime) and 70 dBA (night time).	Noise control measures installed in the plants like acoustic hoods, silencers, enclosures etc. on all sources of noise generation & measured noise level are well with in prescribed standards. The ambient noise level is monitored in the boundary of the plant and the values are well within the standards prescribed under EPA rules, 1989 viz. 75dBA (daytime) & 70 dBA (night time).
vii	Occupational health surveillance of the workers should be done on a regular basis and records maintained as per the factory Act.	As per the Factories Act, regular health surveillance done for all the workers and employees & records are maintained on regular basis.
viii	The company shall develop surface water harvesting structure to harvest the rain water for utilization in the lean season besides recharging the ground water table.	Roof top Rain water harvesting system is being implemented 12 buildings and the harvested rain water is being used in the cooling towers. Since the water table is very high, therefore recharging ground water table is not being done.

ix	The project proponent shall also comply with all the environmental protection measures and safeguards recommended in the EIA/EMP report. Further, the company must undertake socio-economic development activities in the surrounding villages like community development programmes, drinking water supply and health care etc.	• Environmental protection measures & safeguards recommended in EIA/EMP report are being complied. • Socio – economic development activities / programmes like supply of drinking water, health care camps & community development programmes, Self Help Groups, Training and education, Rural Development, Sanitary etc. are being carried out on regular basis and will be continued as per plan.
x	Requisite amount shall be earmarked towards capital cost and recurring cost/annum for environment pollution controls measures to implement the conditions stipulated by the ministry of environment and forest as well as the state Government. An implementation schedule for implementing all the conditions stipulated herein shall be submitted to the regional office of the ministry of the Bhopal. The funds so provided shall not be diverted for any other purpose.	Requisite amount is earmarked towards capital cost and recurring cost/annum for environment pollution controls measures to implement the conditions stipulated by the MoEF&CC as well as the State Government. The funds earmarked for Environmental pollution control measures are properly utilized. The funds earmarked is not diverted any other purpose.
xi	A copy of clearance letter shall be sent by the proponent to concerned Panchayat, Zila parishad /municipal corporation, Urban local body and the local NGO, if any, from whom suggestions / representations, if any, were received while processing the proposal. The clearance letter shall also be put on the web site of the company by the proponent.	Complied A copy of clearance letter is already submitted to concerned Panchayat, Zillah Parishad/Municipal Corporation, Urban Local Body and the local NGO. The Environment Clearance letter also put on the JSW Web site.
xii	The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitoring data on their website and shall update the same periodically. It shall simultaneously be sent to the regional office of the MOEF at Bhopal. The respective zonal office of the CPCB and the CECB. The criteria pollutant levels namely; PM10, SO2, NOx (ambient levels as well as stack emission) or critical sectoral parameters, indicated project shall be monitored and displayed at a convenient location near the	Complied. The status of compliance of the stipulated environment clearance conditions, including results of monitoring data on their website and shall update the same on six monthly basis. The EC compliance and Environmental monitoring reports are submitted to MoEFCC, CPCB.

	main gate of the company in the public domain.	The CEMS data and CAAQMS data are displayed at the main gate.
xiii	The project proponent shall also submit six monthly reports on the status of compliance of the stipulated environmental conditions including results of monitored data (both in hard copies as well as by e-mail) to the regional office of MoEF, the respective Zonal office of CPCB and the SPCB. The Regional office of this Ministry at Bhopal / CPCB / SPCB shall monitor the stipulated conditions.	Being Complied. The six monthly Environmental Clearance compliance report and Environmental monitoring reports are submitted to Regional Office of MoEFCC, MPCB and CPCB.
xiv	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 conditions and shall also be sent to the respective Regional Office of the MoEF at Bhopal by e-mail.	Being submitted regularly Plant wise Environment Statement for 2021-22 prepared and submitted to MPCB portal and uploaded on the web site of the company. Also the same are submitted to regional office of MoEFCC along with six monthly EC compliance report.
xv	The project proponent shall inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the SPCB and may also be seen at Website of the Ministry of Environment and Forests at http/moef.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 locally concerned and a copy of the same should be forwarded to the Regional Office, Bhopal.	Published in newspaper as per guidelines namely in Local newspaper Dainik Krushiwal, Raigad Times, Ramprahar dated 24/11/2012 and English newspaper Indian Express dated 26/11/2012. Hence this point is complied.
xvi	Project authorities 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 concerned authorities and the date of commencing the land development work.	Complied
11	The ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.	Noted
12	The Ministry reserves the right to stipulate additional conditions if found necessary. The	Noted

	Company in a time bound manner shall implement these conditions.	
13	The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention and Control of Pollution) Act 1974, the Air (Prevention and Control of Pollution) Act 1981, the Environment (Protection) Act 1986, Hazardous Wastes (Management, Handling and Transboundary Movement) Rules 2008 and the Public (Insurance) Liability Act 1991 along with their amendments and Rules.	The plant is regularly complying for • The water (Prevention& 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 along with their amendments and rules.

Annexure III

SIX MONTHLY COMPLIANCE REPORTS OF ENVIRONMENT CLEARANCE CONDITIONS

Sub: Expansion of Integrated Steel Plant from 5 to 10 MTPA and Power Plant from 300 MW to 600 MW (Gas Based) of M/s JSW Steel Limited at Geethapuram, Village Dolvi, Tehsil Pen, District Raigarh in Maharashtra

Ref: Environmental Clearance for expansion of integrated steel plant from 5 to 10 MTPA vide letter No J-11011/176/2013-IA-II(I) dated 25/08/2015 amendment dated 23/01/2018.

The production facilities after the expansion are given below:

S. No	Technological Facility	EC accorded for Facilities under 5 MTPA	EC accorded for Facilities under 5 to 10 MTPA	Total unit capacities at 10 MTPA	Status as on October 2022
1.	DR1 (Gas based Mega Module)	2.0 MTPA (by augmentation)	2.0 MTPA	4.0 MTPA	• 2 MTPA plant in operation • 2 MTPA plant under 5-10 MTPA, & technology finalization under progress
2.	Pellet Plant	4.0 MTPA	9.0 MTPA	13.0 MTPA	• 4 MTPA plant in operation • 9 MTPA plant under 5-10 MTPA, Plant is commissioned and in operation.
3.	Coke Ovens including By-product plant	2.0 MTPA	2.5 MTPA	4.5 MTPA	• 1.0 MTPA in operation under EC M/s. Amba River Coke Ltd • 3.5 MTPA Coke Oven, EC transferred to Dolvi Coke Projects Ltd (DCPL) and further changed as JSW Steel Ltd. Plant is in operation (Battery A, B, C & D) of capacity 3.0 MTPA

4.	Sinter Plant	2.8+3.2 MTPA	4.0 MTPA	10.0 MTPA	• 2.8+2.5 MTPA plants are in operation. • The 8 MTPA plant under 5-10 MTPA is being amended to 4 MTPA for which amendment done. Technology to be finalised.
5.	Blast Furnace including Pig casting	3.6 MTPA (by augmentation)	4.5 MTPA	8.1 MTPA	• 3.5 MTPA plant in operation • 4.5 MTPA plant under 5-10 MTPA, Plant is Commissioned and in
6.	SMS (CONARC)	5.2 MTPA (by augmentation)	--	5.2 MTPA	5.2 MTPA Plant in operation
7.	SMS -BOF	--	6.0 MTPA	6.0 MTPA	Plant is commissioned and in operation.
8.	Ladle Furnace (LF)	2x200t +205t	2X300t	2x200t +205t 2X300t	• 2x200t +205t LF in operation • 2X30t LF under 5-10 MTPA is commissioned and in operation
9.	VD/VOD & RH-TP	1x200t+1x205t	2x300t	1x200t +1x205t 2x300t	• 1x200t+1x205t in operation • 1x200t +1x205t 2x300t under 5-10 MTPA, techno-commercial discussion in progress.
10.	CSP(HRC Coil) Thin Caster-cum-Hot Strip Finishing Train	3.5 MTPA (By Augmenting)	-	3.5 MTPA	3.5 MTPA plant in operation.
11.	Convention al Slab Caster	2x1 strands (3.68 MTPA)	2x2 strands (5.72 MTPA)	Total 6 strands (9.4 MTPA)	• 2x1 strands (3.68 MTPA) in operation • 2x2 strands (5.72 MTPA) under 5-10 MTPA, is commissioned and in operation.
12.	Billet Caster	-	1x6 Strands	6 strands (1.5 MTPA)	1x6 strands (1.5 MTPA) plant in operation.
13.	Plate Mill	1.5 MTPA	-	1.5 MTPA	Technology to be finalised.

14.	CRM (Hot Rolled Skin Pass + Cold Rolled Full Hard Coil + Hot Rolled Pickled & Oiled Coil)	1.0 MTPA	1.5 MTPA	2.5 MTPA	Technology is finalized, Application for Consent To Establish is under process
15.	Galvanizing Line (Cold Rolled Steel Strips, Hot Dip Zinc Coated Full Hard)	0.6 MTPA	-	0.6 MTPA	Technology is finalized, Application for Consent To Establish is under process
16.	Electrical Steel CRGO line	0.4 MTPA	-	0.4 MTPA	Technology to be finalised.
17.	Tin Plate Mill	0.4 MTPA	-	0.4 MTPA	Technology to be finalised.
18.	Colour Coating Plant	0.5 MTPA	-	0.5 MTPA	Technology to be finalised.
19.	Lime/Dolo Plant	1800 TPD	1800 TPD	3600 TPD	• 1800 TPD plant in operation • 1800 TPD plant under 5-10 MTPA, is commissioned and in operation.
20.	Oxygen Plant	4100 TPD	3500 TPD	7600 TPD	• 4100 TPD plant in operation • 3500 TPD plant under expansion capacity from 5-10 MTPA is commissioned and in operation.
21.	Hot Rolling Mill with shearing & slitting line	-	5.0 MTPA	5.0 MTPA	5 MTPA plant under 5-10 MTPA, is commissioned and in operation.
22.	Bar Mill	-	1.4 MTPA	1.4 MTPA	1.4 MTPA Plant in operation.
23.	Slag & Clinker Grinding Unit	"	10 MTPA	10 MTPA	EC transferred to JSW Cement Ltd.

24.	Captive Power Plant	300 MW	300 MW	600 MW (based on surplus gases of BF & Coke Oven)+RLNG	• 55 MW Gas based CPP in operation. • 175 MW CPP (Gas based) and 70 MW from CDQ under 5 -10 MTPA installation completed and commissioning under progress.
25.	Township	-	150 acres	150 acres	Work not yet started.

Sr. No.	ENVIRONMENTAL CLEARANCE CONDITIONS	COMPLIANCE STATUS AS ON OCTOBER 2022
	A) Specific Conditions	
i	The project proponent should install 24x7 air and water monitoring devices to monitor air emission and effluent discharge, as provided by CPCB and submit report to Ministry and its Regional Office.	• Project proponent has installed five Continuous Ambient Air Quality Monitoring stations in consultation with MPCB. All these stations are connected to URL of MPCB & CPCB & data is being transmitted online on real time basis for PM2.5, PM10, SO2, NOx & CO with proper O&M • For existing plants under 5 MTPA, Continuous Stack Emission Monitoring systems are installed at all major stacks (34 Nos) & connected to URL of MPCB & CPCB & data is being transmitted online on real time basis. • For installation of CEMS for plants under 5 to 10 MTPA expansion units, the project proponent has issued PO for all major stacks 32 Stacks (12 Nos Process stacks and 21 Nos Non process stacks). Installation and commissioning work is completed and data configuration in progress. • Data on Stack Emission, Ambient Air Quality and Work Environment Air Quality are being submitted to; • MPCB - Once in three months, • MOEF&CC, Nagpur & Delhi – Once in Six month • CPCB, New Delhi – Monthly basis
ii	The PP should ensure treatment of effluent particularly from Blast Furnace (BF) and Coke	• The project proponent has installed Effluent Treatment Plant for existing Blast Furnace 1

	Oven plant. The plant should be designed to meet the cyanide standards stipulated by MoEF&CC under EPA Act 1986.	(BF1) and Coke Oven plant and they are designed to meet the norms. For Expansion project under 5 to 10 MTPA the project proponent has considered the following: • Effluent Treatment Plant (ETP) has been designed for Blast Furnace, Hot Strip Mill and installation work is in progress. The ETP has been designed to meets the norms of effluent standards. • Coke Oven plant II - BOD Plant has been installed and commissioned to treat the waste water generated from Coke oven plant. • The project proponent has provided Centralized Sewage treatment plant for treating the domestic effluent. • The waste water treatment plant provided by the project proponent has been designed to meet the cyanide standards stipulated by MoEF&CC under EPA Act 1986.
iii	The commitment made by the PP for plantation of the green belt to the tune of 655 acres should be expedited. Three rows of green belt, 12-15 meters wide, all along the periphery of the plant should be planted.	As per the EC FJ-11011/76/2013-IA.II(I) dated 16/06/2020, Green belt shall be developed 250 acres in the plant premises and outside the plant 510 acres outside the plant The expansion of the steel plant from 5 to 10 MTPA in contiguous to earlier facilities, Accordingly, Green Belt is being developed in and outside premises as recommended by the EAC, MoEF&CC in the next 5 years once the expansion projects are completed. **Following is the data of No of trees planted up to date by the project proponent** Big Trees 209492 Nos Small Trees 666247 Nos Lawn Development 4593646 Square Feet. • Total Plantation inside the plant premises is approximately 84 Acres. • Outside plantation is 124 Acres (50 Hectares) • Mangrove Plantation 766 Acres (310 Hectares) covered. • Rs 3.04 Crores spent on Mass plantation

		drive for a target of One Million tree plantation in and outside the premises & in nearby villages is being carried out (2021-22). • Rs 6.49 Crores spent on plantation for the year 2021-22 (Up to March 2022). • Rs 4.41 Crores spent on plantation for the year 2022-23 (Up to October 2022). Programs for making people aware of importance of plantation are being done through Gram-Panchayat.
iv	The CSR plan as submitted by the PP in the area of health care, rural infrastructure development, education, sports and cultural activity, Swachh Bharat Abhiyan with respect to the earlier projects and the ongoing project at Dolvi site are very slow in implementation. The CSR activities should be implemented expeditiously and simultaneously with the implementation of the project, and annual report on CSR activity should be submitted to the Ministry.	JSW foundation is the apex organization which is responsible for implementation of CSR activity in and around Dolvi works. JSW foundation is supported by JSW Steel Limited & will be complied. CSR activities in various sectors are being done in the surrounding villages and a time bound action plan for various CSR activities have been submitted to MoEF&CC as per EAC recommendation of 2.5% of project cost. **Amount spent on CSR Activities:** The project proponent has spent Rs 48.75 Crores for the year 2021-22 (up to March 2021). For 2022-23 (April to October 2022): Rs 9.72 Crores The above amount has been spent on Social Development- (Education & Training), Skill Development, Water and Sanitization, Agriculture, Rural Development, Health, Solid Wastes and Community Development.
v	At least 5 % of the total cost of the project should be earmarked towards the Enterprise Social Commitment (ESC) based on local needs. The proponent should prepare a detailed CSR Plan for every next 5 years for the existing-cum-expansion project, which includes village-wise, sector- wise (Health, Education, Sanitation, Health, Skill	The project proponent is carrying out CSR activities in various sectors are being done in the surrounding villages and a time bound action plan for various CSR activities have been submitted to MoEF&CC as per EAC recommendation of 2.5% of project cost. The CER activities shall be implemented in accordance with this Ministry's OM vide F.No.22

	Development and infrastructure requirements such as strengthening of village roads, avenue plantation, etc) activities in consultation with the local communities and administration. The CSR Plan will include the amount of 2% retain annual profits as provided for in Clause 135 of the Companies Act, 2013 which provides for 2% of the average net profits of previous 3 years towards CSR activities for life of the project. A separate budget head should be created and the annual capital and revenue expenditure on various activities of the Plan should be submitted as part of the Compliance Report to RO, at Bhopal. The details of the CSR Plan should also be uploaded on the company website and should also be provided in the Annual Report of the company.	-65/2017-IA III dated 1st May 2018 within the Project implementation period. A separate budget is incurred under CER activities, which are included in the Budget proposal. Amount spent on CER Activities is Rs 119.86 Crores. The above amount was spent on for Construction of Multi-Speciality Hospital, Construction of Roads in outside the pant premises, and expenditure on Tree plantation in nearby villages (outside the Plant).
vi	No development should be done on the creek-ward side of the land. Land area between HTL to 100 mts or width of the creek, whichever is less, on the landward side should be kept free from any type of development.	The project proponent has restricted Development of plant beyond 100 mtrs from HTL & kept the same free. The same was confirmed through Survey was carried out by IRS, Chennai
vii	Full utilization of slag both BF and SMS should be implemented. The details should be submitted along with 6 monthly compliance reports.	For 5 to 10 MTPA full utilization of both slags (BF and SMS Slag) shall be implemented. Blast Furnace Slag shall be 100 % utilized for cement making. Steel Slag from Basic Oxygen Furnace (BOF) will be processed under steam box technology and will be 100 % utilized for construction purpose.
viii	No waste water will be discharged outside the plant boundary during normal operation. In case it become necessary to discharge effluent meeting norms fit to the marine environment, permission of the relevant authority should be obtained.	The project proponent is not discharging waste water outside the plant boundary during normal operation. The project proponent has conveyed that In case it is necessary to discharge, effluent that are meeting the discharge norms fit to the marine environment, at that time permission of the relevant authority shall be obtained by them.
ix	No untreated effluent should be reused for any process.	Untreated waste water will not be reused for any process.

x	Measures should be taken to reduce PM levels in the ambient air. Stack of adequate height & diameter with continuous stack monitoring facilities for all the stacks should be provided and sufficient air pollution control devices viz. Electrostatic precipitator (ESP), bag house, bag filters etc. should be provided to keep the emission levels below 50mg/Nm3 and installing energy efficient technologies in the Plant	For new units under 5 to 10 MTPA all necessary air pollution control devices provided. • Raw Material handling area, yard sprinklers, dry fog system, Dust extraction systems provided to control the fugitive emissions. Constructed covered sheds for Raw Material storage purpose. • Covered shed for Jetty yard-A with a capacity of 110,000MT for Coal Storage • Covered shed for Jetty yard-B with a total capacity of 305,000 MT for Iron Ore and Flux. • Investment on Yard sprinklers, De-dusting system and Dry fogging system Rs 77.29 Crores • Bag filter, ESPs with adequate capacity has been provided to keep the emission levels below 50mg/Nm3 in all plants (Steel Melting Shop II, Hot Strip Mill II, Blast Furnace II and Lime Calcination Plants 5,6,7) • Stacks of adequate height & diameter with continuous stack monitoring facilities for all the stacks shall be provided as per the requirement. • Energy efficient technologies provided in the Plant like waste heat recovery system, Top gas recovery turbine from Blast furnace and Gas Based power plant. • All internal roads were made by concrete. • Regular operation of Road Sweeping machines and water sprinkler on road. • Transfer of De-dusting system dusts and other secondary dusts generated from Pollution Control equipment by bulkers. • The transfer of raw material from Jetty to plant is 100 % through belt and pipe conveyors thereby eliminating any chances of fugitive emission through transportation of material from outside plant to the raw material yard there by improving the Ambient Air Quality.
xi	On-line ambient air quality monitoring and continuous stack monitoring facilities for all the stacks should be provided and sufficient air pollution control devices. Gaseous emission levels including secondary fugitive emissions from all the sources should be controlled within the latest permissible limits	• Five Continuous Ambient Air Quality Monitoring stations have been installed in consultation with MPCB. All these stations are connected to URL of MPCB & CPCB & data is being transmitted online on real time basis for PM2.5, PM10, SO2, NOx & CO with proper O&M

	issued by the Ministry vide G.S.R. 414(E) dated 30th May, 2008 and regularly monitored. Guidelines / Code of Practice issued by the CPCB should be followed.	• The project proponent installed Continuous stack monitoring facilities (CEMS) for 33 Stacks (12 process and 21 Non process stacks). Installation and commissioning is completed and data configuration is under progress. • The project proponent has provided adequate air pollution control devices. Gaseous emission levels including secondary fugitive emissions from all the sources will be controlled within the permissible limits
xii	Dust suppression system and bag filters should be installed to control the fugitive dust emissions at conveyor and transfer points, product handling, loading and unloading points,	Raw Material Handling areas, yard sprinklers, Dry fogging system, dust extraction system provided in the junction houses and transfer points. • **Dust suppression by dry fog systems / water spraying systems** provided at Raw Material Handling Section (RMHS) and other applicable areas. • All conveyors and Junction houses of Raw Material Handling systems are closed system. Details of covered shed for storage of Raw Material; • Covered shed for Jetty yard-A with a capacity of 110,000MT for Coal Storage • Covered shed for Jetty yard-B with a total capacity of 305,000 MT for Iron Ore and Flux. Covered Sheds for Pellet and Coke Storage of Capacity-1,20,000 MT each. In Steel melting shop, Blast Furnace, Lime Calcination Plants, Pellet Plant adequate de-dusting systems with ESPs, Bag Filters provided.
xiii	Water consumption should not exceed as per the CREP standard prescribed for the steel plants. Additional water, if any, required for the plant project operations. Should be met form rainwater stored in rainwater harvesting structures.	Adequate waste water treatment facilities provided to reduce makeup water consumption. Wherever possible, rain water harvesting system at rooftop shall be implemented. The recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the steel plants are implemented regarding specific water consumption. The specific water consumption for the year

		2022 - 23 (April to October 2022) was 2.59 m3/t of crude steel which is well below the targets for flat products and as well as for long products. • **Dry Gas Cleaning plant, a Best Available Technology** installed in Blast Furnace. The traditional wet scrubbing process has high pressure drop due which the energy recovery is low (14 MW) but the bag filter has low pressure drop thus has high energy to recovery (36 MW), by using Dry GCP process the energy recovery has increase approx. of 22 MW, which will reduce specific water consumption. • **Coke Oven Plant - a Best Available Technology Coke Dry Quenching systems (3 Nos)** installed and recover the sensible heat of red hot coke, reduce energy consumption and pollution and improve the quality of coke. Each CDQ will reduce water consumption by 1920 m3/day and energy of 70 MW will be recovered along which will reduce the CO2 emissions by approx. 10.9 Lac.t CO2eq •
xiv	Rainwater harvesting scheme should be prepared so that the rainwater can be collected, re-used and may be used for ground water recharge. The concrete drains should be de-silted and regular supervision of the areas should be carried out so that blocking of drains may be avoided for quick discharge of rainwater. Efforts should further be made to use maximum water from the rain water harvesting sources. If needed, capacity of the reservoir should be enhanced to meet the maximum water requirement.	Noted and will be complied. Rain Water Harvesting system has been implemented in the existing plant (at 12 various buildings of Oxygen Plant, Coke Oven, Power Plant, MRSS and Admin.) and the same shall be implemented to the expansion projects in phase manner.
xv	All the effluents should be treated and reused for dust suppression/green belt development. No effluent should be discharged and 'zero' discharge should be adopted.	Effluent treatment plants provided in Hot Strip Mill and Blast Furnace. ZLD shall be maintained after completion of entire 10 MTPA projects. In case of discharge effluent meeting norms fit to the marine environment, permission of the

		relevant authority shall be obtained. For that, the project proponent has applied for permission from MCZMA for Marine discharge. MCZMA has recommended to Director (IA-III), Coastal Zone Regulation, MoEFCC, New Delhi as per letter no CRZ 2020/CR86/TC4 dated 22.6.2022.
xvi	Full utilization of fly ash should be ensured as per Fly Ash Notification, 1999 and subsequent amendment in 2003 and 2010. All the fly ash should be provided to cement and brick manufacturers for further utilization and Memorandum of Understanding should be submitted to the Ministry's Regional Office at Bhopal.	The Captive Power plant for the existing and the expansion project are gas based. Hence Fly Ash is not generated in the process. Therefore Fly Ash utilization is not relevant to us.
xvii	Hazardous materials required during construction phase and in plant operations should be stored properly as per the regulations and reused/recycled as per the E(P)A Rules.	The project proponent has not used and Hazardous material in the plant during construction phase and in plant operation phase They have also conveyed that the hazardous wastes generated from the plant shall be stored in designated place and disposed to authorized recyclers as per the Hazardous Wastes (Management and Handling and transboundary) guidelines and MPCB consent conditions. They will be maintaining the records as per the guidelines.
xviii	Vehicles and construction machinery are properly maintained to minimize the exhaust emission as well as noise generation to meet prescribed standards.	The vehicle and construction machineries PUCs are properly checked at Main gate before entering the plant. Presently Electric vehicles used in the transport pool for internal transportation inside the plant
xix	Risk and Disaster Management Plan along with the mitigation measures should be prepared and implemented.	Risk & Disaster Management plan has been prepared and submitted to MoEF&CC, New Delhi along with EIA.
xx	All the recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the Steel Plants should be implemented.	The recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the Steel Plants shall be complied as per the guidelines. The recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the steel plants are

		implemented. • Dry Gas Cleaning plant installed in Blast Furnace. The traditional wet scrubbing process has high pressure drop due which the energy recovery is low (14 MW) but the bag filter has low pressure drop thus has high energy to recovery (36 MW), by using Dry GCP process the energy recovery has increase approx. of 22 MW, which will reduce CO2 emissions by approx. 1.4 Lac.tCO2eq. This system saves specific water consumption. • Installed Gas Holders (Coke Oven Gas and LD Gas) which helps the steady network flow for distribution of gas in constant pressure (Operating pressure 996 mmWC). Also it helps to proper utilization of waste gases. It saves CO2 and Energy. • Coke oven plant – Tar sludge / ETP sludge are reused in the Coking process. • Blast Furnace TRT – Energy recovery of top blast furnace gas is being done with power generation through TRT by using top pressure of BF gas. • Coke Oven Plant – Coke Dry Quenching systems (3 Nos) installed and recover the sensible heat of red hot coke, reduce energy consumption and pollution and improve the quality of coke. Each CDQ will reduce water consumption by 1920 m3/day and energy of 70 MW will be recovered along which will reduce the CO2 emissions by approx. 10.9 Lac.t CO2eq • Steel Melting Shop (SMS), secondary de-dusting system (Gas Cleaning Plants 4 Nos) has been installed to control fugitive emissions • Coal Injection Plant for direct injection of pulverized coal in furnace has been implemented. Present rate of CDI in our Blast Furnace is 150 Kg/THM (average for the year 2021-22). • BF Slag- 100% utilized in Cement plant. • EAF slag- 100 % for construction activities for expansion projects by land filling in the low lying areas and is also being used for internal

		road making. Using EAF slag as aggregates for roads in National Highway (Concrete and asphalt roads) • Cast House Fume extraction system inclusive of tap holes, runners, skimmers, ladle and charging points have been provided to control Fugitive emissions from Blast Furnace.
xxi	All the commitments made to the public during public hearing/public consultation should be satisfactorily implemented and adequate budget provision should be made accordingly.	The project proponent is maintaining Separate budget for implementing the projects/ issues as discussed during Public Hearing. CSR activities in various sectors are being done in the surrounding villages and a time bound action plan for various CSR activities have been submitted to MoEF&CC as per EAC recommendation of 2.5% of project cost. The project proponent has spent Rs 48.75 Crores on CSR activities for the year 2021-22 (up to March 2021). For 2022-23 (April to October 2022): Rs 9.72 Crores The above amount has been spent on Social Development- (Education & Training), Skill Development, Water and Sanitization, Agriculture, Rural Development, Health, Solid Wastes and Community Development.
xxii	All the permanent workers should be covered under ESI Scheme. The company should hive the provision for treatment of its workers at the local Nursing Homes & Hospitals in case of emergency. Annual Medical Check-up on some medical parameters like Blood test, Chest X-Ray, Eye test, Audiometry, Spirometry etc. should be conducted amongst the employees of the Company.	Noted & shall be complied as per earlier practice. As per the Factories Act, regular health checkups have been done for workers and employees & records are maintained on regular basis. Annual Medical Check-up conducted for medical parameters like Blood test, Chest X-Ray, Eye test, Audiometry, Spirometry etc. shall be conducted amongst the employees of the Company
B) General Conditions		
i	The project authorities must strictly adhere to the stipulations made by the Maharashtra Pollution Control Board and the State Government.	Consent to Establish and Consent to operate received from Maharashtra Pollution Control Board. The guidelines given by Maharashtra Pollution Control Board (MPCB) and State Government are being followed time to time.

		The plant is regularly complying the stipulated conditions of consent to establish and operate.
ii	No further expansion or modifications in the plant should be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC).	Noted and being complied
iii	At least four ambient air quality monitoring stations should be established in the downward direction as well as where maximum ground level concentration of PM10, PM2.5, S02 and NOx are anticipated in consultation with the SPCB. Data on ambient air quality and stack emission should be regularly submitted to this Ministry including its Regional Office at Nagpur and the SPCB/CPCB once in six months.	The project proponent has installed 5 Nos. online Ambient Air Quality Monitoring Station with consultation of MPCB & data connected the same to MPCB & CPCB Website. The project proponent has submitted Environment monitoring reports on air, water and stack emissions are submitted to MPCB, CPCB and MoEFCC as per the conditions in EC and CTO.
iv	Industrial wastewater should be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19th May, 1993 and 313' December, 1993 or as amended from time to time. The treated wastewater should be utilized for plantation purpose.	The project proponent has provided Separate waste water treatment facilities to treat the industrial waste water. The project proponent will be reusing treated water in the plant process and slag quenching purpose. The project proponent is using Treated Sewage water for plantation purpose.
v	The overall noise levels in and around the plant area should be kept well 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 EPA Rules, 1989 viz. 75 dBA (daytime) and 70 dBA (night time).	The project proponent has maintained an overall noise level of (85 dBA) in and around the plant which is well within the standards The project proponent are measuring Ambient noise level and maintaining as prescribed under EPA Rules, 1989 viz. 75 dBA (daytime) and 70 dBA (night time).
vi	Occupational health surveillance of the workers should be done on a regular basis and records maintained as per the Factories Act.	The project proponent is carrying out as per the Factories Act, regular health check-ups for workers and employees & records are maintained on regular basis.
vii	The company should develop rain water harvesting structures to harvest the rain water for utilization in the lean season besides recharging the ground water table.	The project proponent have implemented Rain Water Harvesting system in the existing plant (at 12 buildings of Oxygen Plant, Coke Oven, Power Plant, MRSS and Admin.) and will be extending the same to expansion projects.

viii	The project proponent should also comply with all the environmental protection measures and safeguards recommended in the EIA/EMP report. Further, the company must undertake socio-economic development activities in the surrounding villages like community development programmes, educational programmes, drinking water supply and health care etc.	The project proponent is taking all Environment Protection measures and undertaking community development program in nearby villages and will be continuing the same for expansion projects. The project proponent has spent the following amount on CSR Activities: For 2022-23 (April to October 2022): Rs 9.72 Crores The project proponent has spent the above amount on Social Development- (Education & Training), Skill Development, Drinking water supply, Sanitization, Agriculture, Rural Development, Health, Solid Wastes, Self-help group and Community Development.
ix	Requisite funds should be earmarked towards capital cost and recurring cost/annum for environment pollution control measures to implement the conditions stipulated by the Ministry of Environment, Forests and Climate Change (MoEF&CC) as well as the State Government. An implementation schedule for implementing all the conditions stipulated herein should be submitted to the Regional Office of the Ministry at Nagpur. The funds so provided should not be diverted for any other purpose.	The project proponent has for expansion projects provided sufficient fund earmarked towards Environment and Pollution Control Measures. Approximately Rs 806 Crores have been spent as investment on Pollution Control System (Air, Water and Solid wastes). The project proponent has allocated adequate fund for operation and maintenance of Pollution Control Systems. The project proponent will not be diverting funds for any other purpose.
x	A copy of clearance letter should be sent by the proponent to concerned Panchayat, Zila Parishad/Municipal Corporation, Urban Local Body and the local NGO, if any, from whom suggestions/representations, if any, were received while processing the proposal. The clearance letter should also be put on the web site of the company by the proponent.	The project proponent has submitted a copy of clearance letter to concerned Panchayat, Zilla Parishad/Municipal Corporation, Urban Local Body and the local NGO. The clearance letter is also uploaded to the JSW Steel web site.
xi	The project proponent should upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and should update the same periodically. It should simultaneously be sent to the Regional Office of the MOEFCC at Nagpur. The respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels namely;	The project proponent has been uploading the status of compliance of the stipulated environment clearance conditions, including results of monitoring data on JSW Steel website on a six monthly basis. The EC compliance report and Environmental monitoring reports (for Air, Water, Solid Waste and Hazardous wastes) are submitted to

	PM10, S02, NOx (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the projects should be monitored and displayed at a convenient location near the main gate of the company in the public domain.	MoEFCC, CPCB, and MPCB on six monthly basis. The CEMS data and CAAQMS data are displayed at the main gate.
xii	The project proponent should also submit six monthly reports on the status of the compliance of the stipulated environmental conditions including results of monitored data (both in hard copies as well as by e-mail) to the Regional Office of MOEFCC, the respective Zonal Office of CPCB and the SPCB. The Regional Office of this Ministry at Nagpur / CPCB / SPCB should monitor the stipulated conditions.	The project proponent has been submitting six monthly Environmental Clearance compliance report and six monthly Environmental monitoring reports to Regional Office of MoEFCC, MPCB and CPCB.
xiii	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, should also be put on the website of the company along with the status of compliance of environmental conditions and should also be sent to the respective Regional Office of the MOEFCC at Nagpur by e-mail.	The project proponent has submitted Environment Statement for 2021-22 to MPCB, MoEFCC and uploading the same to the company website.
xiv	The Project Proponent should inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the SPCB and may also be seen at Website of the Ministry of Environment, Forests and Climate Change (MoEF&CC) at http:/envfor.nic.in. This should 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 should be in the vernacular language of the locality concerned and a copy of the same should be forwarded to the Regional office at Nagpur.	The project proponent has Published the information of receipt of Environment clearance from MoEFCC in newspaper as per guidelines provided in Local newspaper Dainik Krushiwal, Raigad Times, Ramprahar dated August 30, 2015 and English newspaper Indian Express dated September 01, 2015.

xv	Project authorities should 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 commencing the land development work.	The project proponent has intimated the Ministry for date of financial closure and final approval of the project by the concerned authorities and the date of commencing the land development work.
11	The ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.	Noted
12	The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.	Noted
13	The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention and Control of Pollution) Act 1974, the Air (Prevention and Control of Pollution) Act 1981, the Environment (Protection) Act 1986, Hazardous Wastes (Management, Handling and Transboundary Movement) Rules 2008 and the Public (Insurance) Liability Act 1991 along with their amendments and Rules.	The plant is regularly complying for • The Water (Prevention and Control of Pollution) Act 1974 • The Air (Prevention and Control of Pollution) Act 1981 • The Environment (Protection) Act 1986, Hazardous Wastes (Management, Handling and Transboundary Movement) Rules 2008 The Public (Insurance) Liability Act 1991 along with their amendments and Rules.

Annexure IV

SIX MONTHLY COMPLIANCE REPORTS OF ENVIRONMENT CLEARANCE CONDITIONS

Sub: Changes in Plant configuration for proposed expansion of Integrated Steel Plant from 5 to 10 MTPA by M/s JSW Steel Limited at Geethapuram, Village Dolvi, Tehsil Pen, District Raigad in Maharashtra

Ref: Environmental Clearance for changes in configuration for proposed expansion of integrated steel plant from 5 to 10 MTPA vide letter No J-11011/76/2013-IA-II(I) dated 16/06/2020.

The production facilities after the expansion are given below:

S. No	Technological Facility	EC accorded for Facilities under 5 MTPA	EC accorded for Facilities under 5 to 10 MTPA	Total unit capacities at 10 MTPA	Status as on October 2022
1.	DR1 (Gas based Mega Module)	2.0 MTPA (by augmentation)	2.0 MTPA	4.0 MTPA	• 2 MTPA plant in operation • 2 MTPA plant under 5-10 MTPA, & technology finalization under progress
2.	Pellet Plant	4.0 MTPA	9.0 MTPA	13.0 MTPA	• 4 MTPA plant in operation • 9 MTPA plant under 5-10 MTPA, Plant is commissioned and in operation.
3.	Coke Ovens including By-product plant	2.0 MTPA	2.5 MTPA	4.5 MTPA	• 1.0 MTPA in operation under EC M/s. Amba River Coke Ltd • 3.5 MTPA Coke Oven, EC transferred to Dolvi Coke Projects Ltd (DCPL) and further changed as JSW Steel Ltd. • 3.0 MTPA plant is in operation (Battery A, B, C & D)

4.	Sinter Plant	2.8+3.2 MTPA	4.0 MTPA	10.0 MTPA	• 2.8+2.5 MTPA plants are in operation. • The 8 MTPA plant under 5-10 MTPA is being amended to 4 MTPA for which amendment done. • Technology to be finalised.
5.	Blast Furnace including Pig casting	3.6 MTPA (by augmentation)	4.5 MTPA	8.1 MTPA	• 3.5 MTPA plant in operation • 4.5 MTPA plant under 5-10 MTPA, Plant is Commissioned and in operation
6.	SMS (CONARC)	5.2 MTPA (by augmentation)	--	5.2 MTPA	• 5.2 MTPA Plant in operation
7.	SMS -BOF	--	6.0 MTPA	6.0 MTPA	• Plant is Commissioned and in operation.
8.	Ladle Furnace (LF)	2x200t +205t	2X300t	2x200t +205t 2X300t	• 2x200t +205t LF in operation • 2X30t LF under 5-10 MTPA is commissioned and in operation.
9.	VD/VOD & RH-TP	1x200t+1x205t	2x300t	1x200t +1x205t 2x300t	• 1x200t+1x205t in operation • 1x200t +1x205t 2x300t under 5-10 MTPA, techno- commercial discussion in progress.
10.	CSP(HRC Coil) Thin Caster-cum-Hot Strip Finishing Train	3.5 MTPA (By Augmenting)	-	3.5 MTPA	• 3.5 MTPA plant in operation.
11.	Convention al Slab Caster	2x1 strands (3.68 MTPA)	2x2 strands (5.72 MTPA)	Total 6 strands (9.4 MTPA)	• 2x1 strands (3.68 MTPA) in operation • 2x2 strands (5.72 MTPA) under 5-10 MTPA, is commissioned and in operation.
12.	Billet Caster	-	1x6 Strands	6 strands (1.5 MTPA)	1x6 strands (1.5 MTPA) plant in operation.
13.	Plate Mill	1.5 MTPA	-	1.5 MTPA	Technology to be finalised.

14.	CRM (Hot Rolled Skin Pass + Cold Rolled Full Hard Coil + Hot Rolled Pickled & Oiled Coil)	1.0 MTPA	1.5 MTPA	2.5 MTPA	Technology is finalised and application for Consent To Establish is under process.
15.	Galvanizing Line (Cold Rolled Steel Strips, Hot Dip Zinc Coated Full Hard)	0.6 MTPA	-	0.6 MTPA	Technology is finalised and application for Consent To Establish is under process.
16.	Electrical Steel CRGO line	0.4 MTPA	-	0.4 MTPA	Technology to be finalised.
17.	Tin Plate Mill	0.4 MTPA	-	0.4 MTPA	Technology to be finalised.
18.	Colour Coating Plant	0.5 MTPA	-	0.5 MTPA	Technology to be finalised.
19.	Lime/Dolo Plant	1800 TPD	1800 TPD	3600 TPD	• 1800 TPD plant in operation • 1800 TPD plant under 5-10 MTPA, is commissioned and in operation
20.	Oxygen Plant	4100 TPD	3500 TPD	7600 TPD	• 4100 TPD plant in operation • 3500 TPD plant under 5-10 MTPA is commissioned and in operation.
21.	Hot Rolling Mill with shearing & slitting line	-	5.0 MTPA	5.0 MTPA	5 MTPA plant under 5-10 MTPA, is commissioned and in operation.
22.	Bar Mill	-	1.4 MTPA	1.4 MTPA	1.4 MTPA Plant in operation.
23.	Slag & Clinker Grinding Unit	-	10 MTPA	10 MTPA	EC transferred to JSW Cement Ltd.
24.	Captive Power Plant	300 MW	300 MW	600 MW (based on surplus gases of BF & Coke Oven)+RL NG	• 55 MW Gas based CPP in operation. • 175 MW CPP(Gas based) and 70 MW from CDQ under 5 -10 MTPA is is commissioned and in operation.
25.	Township	-	150 acres	150 acres	Work not yet started.

Sr. No.	ENVIRONMENTAL CLEARANCE CONDITIONS	COMPLIANCE STATUS AS ON OCTOBER 2022
A)	**Specific Conditions**	
i	PP Shall develop green belt in an area of 16% of project area within the project site and 33% of Project area within the 10 km of study area."	As per the EC conditions, Green Belt will be developed 16 % within project site and 33 % will be developed within 10 km of study area. Plantation inside the plant will be done in phase manner as per the land availability. • Rs 3.04 Crores spent on Mass plantation drive for a target of One Million tree plantation in and outside the premises & in nearby villages is being carried out (2021-22). • Rs 6.49 Crores spend on plantation for the year 2021-22. • Rs 4.41 Crores spend on plantation for the year 2022-23 (Up to October 2022). • Programs for making people aware of importance of plantation are being done through Gram-Panchayat. **No of trees planted up to date** Big Trees 209492 Nos Small Trees 666247 Nos Lawn Development 4593646 Square Feet. Total Plantation inside the plant premises is approximately 84 Acres. Outside plantation is 124 Acres (50 Hectares) Mangrove Plantation 766 Acres (310 Hectares) covered.

ii	The CER activities shall be implemented in accordance with this Ministry's OM vide F.No.22 -65/2017-IAIIIdated 1st May 2018 within the Project implementation period.	The project proponent is carrying out CSR activities in various sectors and in and around the surrounding villages and a time bound action plan for various CSR activities have been submitted to MoEF&CC as per EAC recommendation of 2.5% of project cost. The project proponent under CER activities will be implementing in accordance with the Ministry 's OM vide F.No.22 -65/2017-IAIII dated 1st May 2018 within the Project implementation period. A separate budget is incurred under CER activities, which is included in the Budget proposal. The project proponent has spent an amount of Rs. 119.86 Crores on CER Activities. The project proponent has spent the above amount on Construction of Multi-Speciality Hospital, Construction of Roads outside the plant premises, and expenditure on Tree plantation in nearby villages (outside the Plant).
iii	Treated domestic wastewater generated from township Shall be reused and recycled.	Noted and will be complied after construction of township.
iv	The Project Proponent Shall achieve Zero Liquid Discharge (ZLD) at the end completion of all the facilities. In the meantime the treated wastewater shall be discharged into sea after obtaining necessary permission /clearance from the concerned regulatory authority.	Zero Liquid Discharge (ZLD) will be achieved at the end completion of all the facilities. In the meantime the treated wastewater shall be discharged into sea after obtaining necessary permission /clearance from the concerned regulatory authority. The project proponent has applied for permission from MCZMA for Marine discharge. MCZMA has recommended to Director (IA-III), Coastal Zone Regulation, MoEFCC, New Delhi as per letter no CRZ 2020/CR86/TC4 dated 22.6.2022.

B) General Conditions		
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.	The project proponent has Obtained Consent to Establish and Consent to Operate from Maharashtra Pollution Control board under The Air (Prevention & Control of Pollution) Act, 1981, The Water (Prevention & Control of Pollution) Act.1974 and Hazardous Wastes (Management and Handling and transboundary) rules.
ii	The Project proponent Shall obtain the necessary permission from the Central Ground Water Authority , in case of drawl of ground water /from the competent authority concerned in case of drawl of surface water required for the project.	Ground water will not be used for this plant. However the project proponent obtained permission from irrigation department for withdrawal of surface water for this project.
iii	The project proponent shall obtain authorization under the Hazardous and other Waste Management Rules , 2016 as amended from time to time	Obtained Consent to Establish and Consent to Operate from Maharashtra Pollution Control board which includes the Hazardous Wastes (Management and Handling and transboundary) rules.
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 (Integrated iron & Steel) ; G.S.R 414 (E) dated 30th May 2008(Sponge Iron) as amended from 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 recognised under Environment (Protection) Act, 1986 or NABL accredited laboratories.	Continuous stack monitoring facilities for (CEMS) shall be provided for all 5 stacks (Process stack and non process stacks) at Pellet plant II as per the CPCB guidelines. For installation of CEMS for plants under 5 to 10 MTPA expansion units, the project proponent has issued PO for all major stacks 33 Stacks (12 Nos Process stacks and 21 Nos Non process stacks). Installation and commissioning work is completed and data configuration in progress. Provided sufficient air pollution control devices. Gaseous emission levels including secondary fugitive emissions from all the sources will be controlled within the latest permissible limits
ii	The Project Proponent Shall monitor fugitive emission in the plant premise at least once in every quarter through labs recognised under	Project Proponent is monitoring fugitive emissions through recognized laboratory and the reports are

	Environment (Protection)Act , 1986.	submitted
iii	The Project Proponent Shall install system to carryout Continuous Ambient Air Quality monitoring for common /criterion parameters relevant to the main pollution released (e.g. PM $_{10}$ and PM $_{2.5}$ in reference to PM emission, and SO_2 and NO_x emissions) Within and outside the Plant area at least at four locations (one within and three outside the plant area at an angel of 120º each) . covering upwind and downwind directions.	• The project proponent has installed five Continuous Ambient Air Quality Monitoring stations in consultation with MPCB. All these stations are connected to URL of MPCB & CPCB & data is being transmitted online on real time basis for PM2.5, PM10, SO2, NOx & CO with proper O&M
iv	The cameras shall be installed at suitable location for 24x7 recording of battery emission on the both sides of coke oven batteries and videos shall be preserved for at least one – month recording.	Separate cameras installed by the project proponent for recording Coke oven plant battery emissions on 24 x 7 basis of Coke Oven plants and Steel Melting Shop.
v	Sampling facility at process stacks and at quenching towers shall be provide as per CPCB guidelines for manual monitoring of emissions.	In Pellet plant 2- all stacks (Process and non process) sampling facilities and monkey ladder provided as per the CPCB guidelines. In Pellet plant there is no quenching tower.
vi	The project proponent shall submit monthly summary report of continuous stack emission and air quality monitoring and result 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.	The project proponent has submitted the six monthly Environmental Clearance compliance report and six monthly Environmental monitoring reports to Regional Office of MoEFCC, MPCB and CPCB on monthly and six monthly basis.
vii	Appropriate Air Pollution Control (APC) system shall be provide for all the dust generating points including fugitive dust from all vulnerable sources so as to comply prescribed stack emission and fugitive emission standards.	All new units under 5 to 10 MTPA has provided necessary air pollution control devices. • The project proponent has provided Raw Material handling area with yard sprinklers, dry fog system, Dust extraction systems to control the fugitive emissions. They have also Constructed covered sheds for Raw Material storage purpose. • The project proponent has provided Covered shed for Jetty yard-A with a capacity of 110,000MT for Coal Storage • The project proponent has provided Covered shed for Jetty Yard-B with a total capacity of 305,000 MT for

		Iron Ore and Flux. • Covered Sheds (2 Nos) for Pellet and Coke Storage of Capacity-1,20,000 MT each. • The project proponent has made Investment on Yard sprinklers, De-dusting system and Dry fogging system to the amount of Rs 77.29 Crores • The project proponent has provided Bag filter, ESPs with adequate capacity to keep the emission levels below 50mg/Nm^3 in all plants (Steel Melting Shop II, Hot Strip Mill II, Blast Furnace II and Lime Calcination Plants 5,6,7) • The project proponent has provided Stacks of adequate height & diameter with continuous stack monitoring facilities for all the stacks as per the requirement. • The project proponent has provided Energy efficient technologies in the Plant like waste heat recovery system, Top gas recovery turbine from Blast furnace and Gas Based power plant. • The project proponent has provided all internal roads made of concrete. • The project proponent is regularly operating Road Sweeping machines and water sprinkler on road. • The project proponent has been regularly transferring dust of De-dusting system and other secondary dusts generated from Pollution Control equipment by bulkers. • The project proponent is transferring raw material from Jetty to plant 100 % through belt and pipe conveyors thereby eliminating any chances of fugitive emission through transportation of material from outside plant to the raw material yard there by improving the Ambient Air Quality.
Viii	The Project proponent shall provide leakage detection and mechanised bag cleaning facilities	In De-dusting system leakage detection system provided.

	for better maintenance of bags.	Process stacks have been connected with ESPs in Pellet Plant II Bag filters with mechanized bag cleaning system like pulse jet type is provided.
ix	Secondary emission control system shall be provide at SMS Converters.	In SMS Converters, Dust extraction system with bag filters and ESPs provided to control the secondary emissions.
x	Pollution control system in the steel plant shall be provided as per the CREP Guidelines of CPCB.	The recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the Steel Plants shall be complied as per the guidelines. • BF Slag- 100% utilized in Cement plant. • Steel slag- Utilized 100 % for construction activities for expansion projects by land reclamation in the low lying areas and is also being used for internal road making. Further the slag shall be utilized for road construction (Internal roads and National Highways) and marine applications like tetrapod and other civil structures. • The specific water consumption for the year 2022 - 23 was < 2.59 m3/t of crude steel which is well below the targets for flat products and as well as for long products. • Dry Gas Cleaning plant installed in Blast Furnace. The traditional wet scrubbing process has high pressure drop due which the energy recovery is low (14 MW) but the bag filter has low pressure drop thus has high energy to recovery (36 MW), by using Dry GCP process the energy recovery has increase approx. of 22 MW, which will reduce CO2 emissions by approx. 1.4 Lac.tCO2eq. This system saves specific water consumption. • Installed Gas Holders (Coke Oven

		Gas and LD Gas) which helps the steady network flow for distribution of gas in constant pressure (Operating pressure 996 mmWC). Also it helps to proper utilization of waste gases. It saves CO2 and Energy. • Blast Furnace TRT – Energy recovery of top blast furnace gas is being done with power generation through TRT by using top pressure of BF gas. • Coke Oven Plant – Coke Dry Quenching systems (3 Nos) installed and recover the sensible heat of red hot coke, reduce energy consumption and pollution and improve the quality of coke. Each CDQ will reduce water consumption by 1920 m3/day and energy of 70 MW will be recovered along which will reduce the CO2 emissions by approx. 10.9 Lac.t CO2eq • Steel Melting Shop (SMS), secondary de-dusting system (Gas Cleaning Plants 4 Nos) has been installed to control fugitive emissions • Coal Injection Plant for direct injection of pulverized coal in furnace has been implemented. Present rate of CDI in our Blast Furnace is 150 Kg/THM (average for the year 2021-22). • Cast House Fume extraction system inclusive of tap holes, runners, skimmers, ladle and charging points have been provided to control Fugitive emissions from Blast Furnace.
xi	Sufficient number of mobile or stationery vacuum cleaners shall be provided to clean plant roads, shop floors , roofs, regularly.	• Road sweeping machines are provided by the project proponent to clean the internal on regular basis. • Stationary vacuum cleaners shall be provided for shop floors to clean the shop floor. • Water tankers with sprinklers

		provided for water spraying on road. • Construction of all internal roads by Concrete. • Transfer of De-dusting system dusts and other secondary dusts generated from Pollution Control equipment by bulkers.
xii	Recycle and reuse iron ore fines, coal and coke fines, lime fines and such other fines collected in the pollution control devices in the process after briquetting /agglomeration.	Iron ore fines, coal and coke fines, lime fines and such other fines collected in the pollution control devices like scrubbers, Bag Filters and ESPs are reused in the process (Sinter Plant and Pellet Plants) after agglomeration. Construction of all internal roads by concreting.
xiii	The projects proponent use leak proof trucks /dumpers carrying coal and other raw materials and cover them with tarpaulin.	Majority of the raw material received in the plant is from Jetty through barges. From Barges the material is unloaded through Closed conveyors and pipe conveyors. Raw Material Handling areas, yard sprinklers, Dry fogging system, dust extraction system provided in the junction houses and transfer points. They have Installed Covered sheds (4 Nos) for Raw Material storage purpose. The same is mentioned as below • Covered shed for Jetty yard-A with a capacity of 110,000MT for Coal Storage • Covered shed for Jetty Yard-B with a total capacity of 305,000 MT for Iron Ore and Flux. • Covered Sheds (2 Nos) for Pellet and Coke Storage of Capacity-1,20,000 MT each. • New Covered shed for storing Iron Bearing Raw Material and Flux is in progress • Investment on Yard sprinklers, De-dusting system and Dry fogging system to the tune of Rs 77.29 Crores

		The project proponent has provided adequate de-dusting systems with ESPs, Bag Filters in Steel melting shop, Blast Furnace, Lime Calcination Plants, Pellet Plant.
xiv	Facilities for spillage collection shall be provided for coal and coke on wharf of coke oven batteries (chain conveyors land based industrial vacuum cleaning facility).	In Coke oven plants dust extraction system provided at Coal handling area, Coke crushing, Coke cutting and coke storage. In wharf area of coke oven batteries regular cleaning is done.
xv	Land – based APC systems to be installed to control coke pushing emissions	Separate ground Dedusting systems provided to control the charging and pushing emissions from Coke oven plants.
xvi	Monitor CO, HC and O_2 in flue gases of the Coke oven battery to detect combustion efficiency and cross leakages in the combustion chamber.	In Coke Oven plants monitoring parameters for CO, HC and Oxygen. On line monitoring analysers like CO, HC, O2 detectors have been provided to measure the combustion efficiency in the Coke oven batteries. Also the cross leakages in the combustion chamber measured by separate sensors.
xvii	Vapour absorption system shall be provided in place of vapour compression system for cooling of coke oven gas in case of recovery type coke ovens.	High Pressure Liquor Aspiration system (HPLA) provided at Coke oven plant to cooling of coke oven gas of recovery type coke ovens.
xviii	In Case concentrated ammonia liquor is incinerated, adopt high temperature incineration to destroy Dioxins and Furans. Suitable NOx control facility shall be provided to meet the prescribed standards.	High Pressure Liquor Aspiration system (HPLA) provided at Coke oven plant. Also steam based distillation unit provided for removal of ammonia from ammonia liquor.
xix	The coke oven gas shall be subjected to desulphurization if the sulphur content in the coal exceeds 1%.	Desulphurization system has been provided in Coke oven plants. After Tar separation of the Coke Oven gas is sent to Desulphurization section where the sulphur in the form of H2S will get adsorbed to ammonia solution in the desulphurization tower. The Adsorbed sulphur will be separated in regeneration tower through addition of catalyst and oxygen.

xx	Wind Shelter fence and chemical spraying shall be provide on the raw material stock piles.	Closed covering sheds constructed for storing the raw materials (Coal and Coke). Raw material is being transported through closed conveyors. Raw Material Handling areas, yard sprinklers, Dry fogging system, dust extraction system provided in the junction houses and transfer points. Installed Covered sheds (4 Nos) for Raw Material storage purpose. • Covered shed for Jetty yard-A with a capacity of 110,000MT for Coal Storage. Covered shed for Jetty yard-B with a total capacity of 305,000 MT for Iron Ore and Flux. • Covered Sheds (2 Nos) for Pellet and Coke Storage of Capacity-1,20,000 MT each. • New Covered shed for storing Iron Bearing Raw Material and Flux is in progress • Investment on Yard sprinklers, De-dusting system and Dry fogging system to the tune of Rs 77.29 Crores The project proponent has provided adequate de-dusting systems with ESPs, Bag Filters in Steel melting shop, Blast Furnace, Lime Calcination Plants, Pellet Plant.
xxi	Design the ventilation system for adequate air changes as per ACGIH document for all tunnels, Motor houses, oil Cellars.	Adequate ventilation system has been provided for all motor houses, Oil cellars, Furnace areas by reputed vendors.
xxi	The project proponent shall install dry Gas Cleaning Plant with bag filter for blast Furnace and SMS converter.	Dry Gas Cleaning Plant with bag filter installed at Blast Furnace II and SMS Converter. The traditional wet scrubbing process has high pressure drop due which the energy recovery is low (14 MW) but the bag filter has low pressure drop thus has high energy to recovery (36 MW), by using Dry GCP process the energy recovery has increase approx. of 22 MW, which will reduce CO2 emissions by approx. 1.4 Lac.tCO2eq. Also it saves specific water consumption.

		Coke dry quenching Systems (3 Nos) Installed to recover the sensible heat of red hot coke, reduce energy consumption and pollution and improve the quality of coke. Each CDQ will reduce water consumption by 1920 m^3/day and energy of 70 MW will be recovered along which will reduce the CO_2 emissions by approx. 10.9 Lac.t CO2eq. In Steel Melting Shop Basic Oxygen Furnace Converter area provided adequate pollution control systems like ESP and Bag Filters.
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 (Integrated iron & Steel); G.S.R 414 (E) dated 30th May 2008 (Sponge Iron)as amended from time to time; S.O. 3305 (E) dated 7th December 2015(Thermal Power Plant) 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 recognised under Environment (Protection) Act, 1986 or NABL accredited laboratories.	On line effluent monitoring systems shall be provided as per CPCB guidelines. For existing plants, zero liquid discharge is maintained. In case of discharge effluent meeting norms fit to the marine environment, separate on line effluent monitoring system shall be provided at inlet and out pipeline after obtaining approval form the competent authority.
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 recognised under Environment (Protection) Act. 1986 and NABAL accredited laboratories.	There is no ground water used in the plant and there is no source for collecting the ground water. Nearby area of the plant the well water shall be analysed from the NABAL accredited laboratories.
iii	The Project Proponent shall monthly summary report of continuous effluent monitoring and results of manual effluent testing and manual monitoring of ground water quality to Regional office of MoEF & Cc , Zonal office CPCB and Regional office of SPCB along with Six – Monthly monitoring report.	The monthly Environment monitoring report will be submitted to CPCB, MPCB and MoEFCC as per the guidelines.

iv	The Project proponent shall provide the ETP for coke oven and by – product to meet the standards prescribed in G.S.R. 277 (E) dated 31st March 2012 (Integrated iron & Steel); 3305 (E) dated 7th December 2015 (Thermal Power Plant) as amended from time to time as amended from time to time.	Effluent Treatment Plant (ETP) i.e. Biological Oxidation and Dephenaloization (BOD) plant has been provided to the existing Coke Oven plants to treat the waste water. The plant is designed to meet the norms.
v	Sewage Treatment Plant shall be provided for treatment of domestic wastewater to meet the prescribed standards.	Sewage Treatment Plant of capacity 300 KLD shall be installed for treatment of domestic wastewater to meet the prescribed standards.
vi	Garland drains and collection pits shall be provided for each stock pile to arrest the runoff in the event of heavy rains and to check the water pollution due to surface run off.	Various provisions like Garland drains, covered shed, settling tank, covered conveyer belt etc. have been provided at Raw Material Handling area to arrest the runoff during monsoon season and avoid pollution due to surface runoff. For storage of raw material like coal, Iron Ore and Flux installed storage yards to avoid runoff the materials during monsoon season.
vii	Tyre washing facilities shall be provided at the entrance of the plant gates.	Raw material shall be transported through closed conveyor belt from jetty to plant. Tippers and truck movement shall be restricted within premises. All internal road shall be concreted.
viii	CO_2 injection shall be provide in GCP of SMS to reduce pH in circulating water to ensure optimal recycling of treated water for converter gas cleaning.	Noted and will be complied.
ix	The projects proponent shall make efforts to maximum possible extent.	Noted and will be complied.
x	Treated water from ETP of COBP shall not be used for coke quenching.	As per the standard procedure for coke oven plants the treated waste water from Coke oven - BOD plant is used for coke quenching.
xi	Water meters shall be provided at the inlet to all unit processes in the steel plant.	Water meters have been provided in all plants inlets to measure the water consumption.
xii	The projects proponent shall make efforts to minimise water consumption in the steel plant complex by segregation of used water , practicing cascade use and by recycling treated water.	Noted and will be taken measures to reduce the water consumption. Blow down from the cooling tower of clean circuit will be fed as make-up water to cooling circuit of contaminated

		water. Pressure filtration system shall be provided for cleaning the Contaminated water Dry Gas Cleaning Plant provided at SMS Converter & Blast Furnace for water scrubber elimination, leading to the effective collection of LD gas and BF gas and will be utilized inside the plant. Coke dry quenching system installed at Coke oven plant. Pressure filtration system have been provided for cleaning the Contaminated water. Backwash water from the pressure filters will be treated in a sludge thickener and the concentrated sludge will separated.
IV Noise monitoring and prevention		
i	Noise level survey shall be carried as per the prescribed guidelines and report in this regard shall be submitted to Regional officer of the ministry as a part of six –monthly compliance report	Existing plants the work place noise level is monitored in the plant locations and submitted to MoEFCC on six monthly basis. The same shall be complied for the plants under expansion.
ii	The ambient noise levels should conform to the standards prescribed under E (P) rules, 1986 viz . 75 db (A) during day time and 70 db (A) during night time	Noise level is monitored at ambient air quality monitoring locations as per guidelines and submitted to MoEFCC on six monthly basis. Noise value of last six month?
V. Energy Conservation measures		
i	The project proponent shall provide TRTs to recover energy from top gases to blast furnaces.	In Blast Furnace Top Gas Recovery Turbine are provided to recover the energy from top gases.
ii	Coke Dry Quenching (CDQ) Shall be provided for coke quenching for the both recovery and non – recovery type coke ovens ;	Coke Dry Quenching (CDQ) system installed at Coke oven plants. The steam generated from the CDQ are generating power.
iii	Waste heat shall be recovered from sinter Plant coolers and Sinter Plants coolers and sinter Machines .	Existing Sinter plants I & II waste gas recovery systems with boilers are already installed. Coke oven plants heat recovery boilers provided. The same shall be implemented for proposed plants under expansions.
iv	Use torpedo ladle for hot metal transfer as far as possible. If ladles not used , provide covers for open top ladles.	In Blast Furnace I & II the hot metal is transferred through torpedo ladle.

v	Use hot charging of slabs and billets / blooms as far as possible.	The system is continuous process for making Hot rolled coils and TMT bars. Hence as per the existing practice, hot charging of slabs and billets / blooms process in place.
vi	Waste hot recovery system shall be provide in all units where the flue gas or process gas exceeds 300ºC .	Existing Sinter plants I & II waste gas recovery systems with boilers are already installed. Coke oven plants heat recovery boilers provided. • Dry Gas Cleaning plant installed in Blast Furnace, the bag filter has low pressure drop thus has high energy to recovery (36 MW), by using Dry GCP process the energy recovery has increase approx. of 22 MW. This system saves specific water consumption. • Installed Gas Holders (Coke Oven Gas and LD Gas) which helps the steady network flow for distribution of gas in constant pressure (Operating pressure 996 mmWC). Also it helps to proper utilization of waste gases. It saves CO2 and Energy. • Blast Furnace TRT – Energy recovery of top blast furnace gas is being done with power generation through TRT by using top pressure of BF gas. • Coke Oven Plant – Coke Dry Quenching systems (3 Nos) installed and recover the sensible heat of red hot coke, reduce energy consumption and pollution and improve the quality of coke. Each CDQ will reduce water consumption by 1920 m3/day and energy of 70 MW will be recovered along which will reduce the CO2 emissions also.
vii	Explore feasibility to install WHRS at Waste Gases from BF Stoves: Sinter Machine Sinter Cooler ,and all reheating furnaces and if feasible shall be installed .	Existing Blast Furnace, Sinter plants and Coke oven plants, Waste Heat Recovery boilers are in place. The same shall be implemented for plants under expansions wherever possible.

viii	Restrict Gas Flaring to < 1%	The Gas generated form Blast Furnace and Coke oven plants are used as fuel in other plants. Operation of Gas Based Captive Power plants of capacity 55 MW and 170 MW by Using BF and Coke oven gas. Installed Gas Holders (Coke Oven Gas and LD Gas) which helps the steady network flow for distribution of gas in constant pressure.
ix	Proved solar Power generation on roof tops of buildings. for solar light system for the all common area, stress lights. Parking around projects area and maintain the same regularly ;	Noted and will be complied wherever possible.
x	Proved LED lights in their officers and residential areas.	LED lights are using in the plant offices and plant areas.
xi	Ensure installation of regenerative type burners on all reheating furnace.	The Blast Furnace Gas and Coke Oven Gases are generated form the plants and the same shall be used as fuel in the plant operations.
VI. Waste management		
i	An attrition grinding unit to improve the bulk density of BF granulated slag from 1.0 to 1.5 kg /l shall be installed to use slag as river sand in construction industry.	The project proponent has noted and will be complied as per the feasibility. Presently the BF Slag is 100 % used Cement making and used for construction activity. BF Slag to sand plant shall be installed.
ii	In Case of Non – Recovery coke ovens, the gas main carrying hot flue gases to the boiler, shall be insulated to conserve heat and to maximise heat recovery.	The existing coke oven plants are recovery type. The coke oven gas generated is used as fuel for various processes. Heat recovery system boilers installed at Coke oven plants. The waste heat lines are insulated to conserve heat and to maximise heat recovery.
iii	Tar sludge and waste oil shall be blend with coal charged in coke ovens (applicable only to recovery type coke ovens)	As per the standard operating procedures for Coke Oven plants, the Tar sludge is blended with coal and charging in the battery. Since the Coke oven plants are recovery type.
iv	Carbon recovery plant to recover the elemental to recover scrap , metallic and flux for recycling	For existing plant the steel scrap generated form the plant is used in

	to sinter plant and SMS.	Electric Arc Furnace. The Solid wastes like Coal dust, Iron Ore fines, Lime Stone fines, Bag filter dust and ESP dusts are reused as raw material in Sinter Plants and Pellet plants.
v	Waste Recycling Plant shall be installed to recover scrap , metallic and flux for recycling to sinter plant and SMS.	Slag processing plant with Metal recovery system is in place. All the plant wastes like Bag Filter Dust, ETP sludge and Iron bearing materials are used in Sinter plants and Pellet Plant. The metal scarp like skull and MS scraps are used in Electric Arc Furnace and
vi	Used refractories shall be recycling for possible.	The used refractories are used in Steel melting shop as EBT filling mass and sold to outside parties and used for land filling.
vii	SMS slag after metal recovery in waste recycling facility shall be conditioned and used for road making , railway track ballast and other applications . The Projects proponent shall install a waste recycling facility to recover metallic and flux for recycle to sinter plant. . the Project proponent shall establish linkage for 100% reuse of rejects from waste recycling plant.	R&D work with various Govt agencies are carrying out the utilization of Steel slag for various purposes. EAF slag is being used for road construction (Internal roads and National Highways) and land reclamation purpose. As per the analysis report received form Central Building Research Institute, the Steel slag is suitable for road and other construction activity as aggregates. Also steel slag can be used for marine applications for making tetrapod and marine structures. BOF Slag will be processed by steam quenching technology and shall be used for construction purpose. Proposed project for converting the salg into sand (by processing in Slag to Sand plant).
viii	100% utilization of fly ash shall be ensured . All the fly ash shall be provided to cement and brick manufacturers for further utilization and Memorandum of Understanding in this regard shall be submitted to the Ministry's regional Office.	This condition is not applicable to this plant. The Captive Power plant for the existing and the expansion project are gas based. Hence Fly Ash will not be generated in the process. Therefore, Fly Ash utilization is not relevant to us.
ix	Oil Collection pits shall be provided in oil cellars to collect and reuse/ recycle Spilled oil. Oil	Oil cellar areas, oil collection pits have been provided to collect the spilled oil.

	collection trays shall be provided under coils on saddles in cold rolled coil storage area.	This plant is not producing Cold Rolled Coil and don't have facility for storage of cold rolled coil.
x	The Waste oil grease and other hazardous waste like acidic sludge from picking galvanising chrome plating mills etc. Shall be disposed of as per the Hazardous & other waste (Management & Transboundary Movement) Rules 2016 Coal tar sludge / decanter shall be recycled to coke ovens .	The used and spent oil generated from the plant shall be sold to MPCB/CPCB authorized recyclers as per the Hazardous Waste (Management, Handling and Transboundary Movement) Rules. We don't have facility for producing galvanising chrome plating mill. Hence there will not be generation of acidic sludge. Coal tar sludge / decanter generated form Coke oven plant is being recycled to coke ovens as per the CREP Guidelines. Since the Coke oven plant is recovery type.
xi	Kitchen waste shall be composed or converted to biogas for further use.	Noted and will be complied as per the feasibility. Presently the canteen waste is composed and converted into Bio gas.
VII. Green Belt		
i	Green belt shall be developed in are equal to 33% of the plant area with a native tree species in accordance with CPCB guideline .The greenbelt shall inter alia covert the entire periphery of the plant.	As per the EC FJ-11011/76/2013-IA.II(I) dated 16/06/2020, the project proponent has developed Green belt in 250 acres in the plant premises and in 510 acres outside the plant. The expansion of the steel plant from 5 to 10 MTPA in contiguous to earlier facilities, so the project proponent accordingly is developing Green Belt in and outside the premises as recommended by the EAC, MoEF&CC in a period of 5 years once the expansion projects are completed. **Following is the data of No of trees planted up to date by the project proponent** Big Trees 209492 Nos Small Trees 666247 Nos Lawn Development 4593646 Square Feet. • Total Plantation inside the plant premises is approximately 84 Acres.

		• The total plantation area Outside the plant is around 890 Acres out of which 124 Acres (50 Hectares) has been done in the forest land and Mangrove Plantation is in 766 Acres (310 Hectares) however the requirement is 502 Acre only. • The project proponent has spent Rs.3.04 Crores on Mass plantation drive with a target of One Million tree plantation in and outside the premises & in nearby villages which was carried out in (2021-22). • The project proponent has spent Rs. 6.49 Crores on plantation for the year 2021-22. • Rs 4.41 Crores spent on plantation for the year 2022-23 (Up to October 2022). The project proponent had organized programs for making people aware of the importance of plantation through Gram-Panchayat.
ii	The Projects proponent shall prepare GHG emissions inventory for the plant and shall submit the programme for reduction of the same including carbon sequestration including planation.	GHG emissions inventory is being prepared for regular monitoring of CO2 emissions. Plant wise CO2 Emissions contributors are regularly monitored and action plan prepared.
VIII. Public hearing and Human health issues		
i	Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management plan shall be implemented .	Plant wise Hazard Identification and Risk Assessment (HIRA) and Disaster Management plan are already in place and same shall be implemented.
ii	The project proponent shall carry out heat stress analysis for the workmen who work in in high temperature work zone provide personal protection Equipment (PPE) as per the norms of factory Act.	Heat Stress analysis is being implemented for the workman who are working in high temperature area and adequate PPEs shall be provided. The records are maintained and submitted to statutory authorities by HR.
iii	Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking mobile toilets ,mobile STP ,safe drinking water medical health care ,crèche etc.	During construction of housing colony, necessary infrastructure and facilities such as fuel for cooking mobile toilets, mobile STP, safe drinking water medical health care, crèche etc is being

	The housing may be in the form of temporary structures to be removed after the completion of the project.	provided to the labours. After completion of the entire project activities, the same shall be removed.
iv	Occupational heath surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.	Noted & shall be complied as per earlier practice. As per the Factories Act, regular health check-up's have been done for workers and employees & records are maintained on regular basis.
IX CSR Environment Responsibility		
i	The company shall have a well laid down environmental policy duly approve by the Board of Directors. The environmental police should prescribe for standards operating to have proper check and balance and to bring into focus any infringements / deviation /violation of the environmental /forest / wildlife norms/conditions. The company shall have defined system of reporting infringements /deviation /violation of the environmental / forest / wildlife norms / conditions and /or shareholders /stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF &CC as a part of six- monthly report.	Environment Policy is in place and being complied in adherence to Environmental Clearance, Environmental Laws and regulations.
ii	A Separate Environmental Cell both at the Project and company head quarter level ,with qualified personnel shall be set up under the control of senior Executive ,who will directly to the head of the organization.	Separate Environment Cell is in place having qualified Environment personnel. Head of Environment dept reports to Head of the Plant i.e. President.
iii	Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall be prepared and shall duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the Ministry / regional office along with the Six Monthly Compliance Report.	A separate budget head created under Environment Management Programme and the fund marked for Environment protection measures shall be maintained separately and it will not have diverted for any other purpose. Rs 806 Crores spent for Expenditure on Environment Protection as capital investment for plants under Expansion from 5 to 10 MTPA steel Plant for pollution control devises for Air, Water and Solid Wastes.
iv	Self environment audit shall be conducted annually. Every three years third party environmental audit shall be carried out.	Internal audit is conducted by our internal audit team. External audit also conducted by third party once in a year

v	All the recommendation made the charter on corporate responsibility for Environment protection (CREP)_ for the Iron and steel plants shall implemented.	The recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the Steel Plants shall be complied as per the guidelines. • Blast Furnace – Energy recovery of top blast furnace gas is being done with power generation through TRT by using top pressure of BF gas. • DRY Gas Cleaning Plant installed in Blast Furnace. • Steel Melting Shop (SMS), secondary de-dusting system has been installed to control fugitive emissions • Coal Injection Plant for direct injection of pulverized coal in Blast Furnace has been implemented. Present rate of CDI in our Blast Furnace is 145 to 150 Kg/THM. • BF Slag- 100% utilized in Cement plant. • Steel slag- Utilized 100 % for construction activities for expansion projects by land reclamation in the low lying areas and is also being used for internal road making. Further the slag will be utilized for road construction and marine applications like tetrapod and other civil structures. • Cast House Fume extraction system inclusive of tap holes, runners, skimmers, ladle and charging points have been provided to control Fugitive emissions from Blast Furnace. • The specific water consumption for the year 2021 - 22 was < 1.85 m3/t of crude steel which is well below the targets for flat products and as well as for long products. Online Stack Monitoring System have been installed on all stacks. The real time data is interlinked with MPCB and CPCB server.
X. Miscellaneous		

i	The Projects proponent shall make public the environmental clearance granted for their projects along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspaper of the District or State ,of which one shall be in the vernacular language within seven days and addition this shall also be displayed in the project proponent's website permanently.	Published in newspaper as per guidelines namely in Local newspaper Dainik Krushiwal, Raigad Times, Ramprahar dated 30th June 2020 and English newspaper Free Press Journal dated July 10, 2020 and the same was displayed on JSW website.
	The copies of environmental clearance shall be submitted by the projects proponents to the Heads of local bodies . panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt .	A copy of Environment Clearance letter is already submitted to concerned Panchayat, Zillah Parishad/Municipal Corporation, Urban Local Body and the local NGO,
iii	The project proponent shall up lode the status compliance of stipulated environment clearance conditions including results of monitored date on their website and update the same on half – yearly basis.	Noted and shall be complied on regular basis. Environmental Monitoring Report and EC Compliance status are regularly updated on the company website.
iv	The Projects Proponent shall monitor the criteria pollutants level namely; PM_{10}, SO_2, NO_x (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.	Environmental parameters are monitored on monthly basis and the Six monthly environmental monitoring reports are submitted to MoEFCC and displayed the same in JSW Steel website
v	The Project proponent shall submit six- monthly reports on the status of the compliance of the stipulated Environmental conditional on the website of the ministry of environment ,Forest and Climate change at environmental Clearance portal.	Six monthly environmental Clearance compliance reports are submitted to MoEFCC and displayed the same in JSW Steel website
vi	The Project proponent shall submit the environment statement for each financial year in from –V to the concerned state pollution control Board as prescribed under the Environment (Protection) Rules , 1986, as amended subsequently and put on the website of the company.	Environment Statement reports are prepared and submitted to MPCB before 30th September of every year. The same is uploaded on JSW Steel Website.
vii	The Project proponent shall inform the Regional office as well as Ministry , the date of financial, closure and final approval of the project by the concerned authorities commencing the land development work and start of production operation by the project.	Noted
viii	The Project authorities must strictly adhere to the stipulations mode by the state pollution control Board and the state Government.	Shall be complied

ix	The Project proponent shall abide all the commitments and recommendations made in the EIA/ EMP report ,commitment made during public Hearing and also that during their presentation to the Expert Appraisal Committee .	Noted and shall be complied. Separate budget is maintained for implementing the projects/ issues as discussed during Public Hearing and as per the discussions with the Expert Appraisal Committee. JSW foundation is the apex organization which is responsible for implementation of CSR activity in and around Dolvi works. JSW foundation is supported by JSW Steel Limited & will be complied. The project proponent has spent the following Amount on CSR Activities: The project proponent has spent Rs 48.75 Crores for the year 2021-22 (up to March 2021). For 2022-23 (April to October 2022): Rs 9.72 Crores The above amount has been spent on Social Development- (Education & Training), Skill Development, Water and Sanitization, Agriculture, Rural Development, Health, Solid Wastes and Community Development.
x	No further expansion or modification in the plant shall be carried out without prior approval of the Ministry of Environment , Forests and Climate Change (MoEF/ CC).	Noted and shall be complied
xi	Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (protection) ACT,1986.	Noted
xii	The Ministry may revoke or suspend the clearance if implementation of any of the above conditions is not satisfactory.	Noted
xiii	The Ministry reserves the right to stipulate additional conditions if found necessary. The company in a time bound manner shall implement these conditions.	Noted
xiv	The Regional office of this Ministry Monitor Compliance of stipulated conditional .The Project authorities should extended full cooperation to the officer (s) of the regional	Noted and shall be complied

	office by furnishing the requisite data /information/monitoring reports.	
xv	The above conditions shall be enforced inter – alia under provisions of the water (Prevention & Control of Pollution) Act,1974 the Air (Prevention & Control of Pollution)Act,1981 , the Environment (Protection) Act ,1986 Hazardous and other Wastes (Management and transboundary Movement) Rules ,2016 and the Public Liability Insurance Act, 1991 along with their amendments and Rules ,2016 and any other orders passed by the hon'ble supreme Court of India /High Court and any other Court of Law relating to the Subject matter.	The plant is regularly complying for • The Water (Prevention and Control of Pollution) Act 1974 • The Air (Prevention and Control of Pollution) Act 1981 • The Environment (Protection) Act 1986, Hazardous Wastes (Management, Handling and Transboundary Movement) Rules 2008 • The Public (Insurance) Liability Act 1991 along with their amendments and Rules.
xvi	Any appeal against this EC shall lie with National Green Tribunal ,if preferred, within a period of 3 days as prescribed under section 16of the National green Tribunal Act,2010.	Noted