

Dolvi Works: Geetapuram,
Dolvi, Taluka - Pen,
Dist Raigad - 402 107, Maharashtra, India.
CIN. : L27102MH1994PLC152925
Phone : +91 2143 277501-15
Fax : +91 2143 277533/42
Website : www.jsw.in

October 12, 2017

JSWSL/ENV/MoEF&CC/2017

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.

Sir,

With reference to above, please find enclosed herewith 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., Dolvi Works, as Annexure 1, 2 and 3 respectively along with environment monitoring reports for your kind information, perusal & records please.

Thanking you,

Yours faithfully,
For JSW Steel Limited



Dr Amit Ranjan Chakraborty
General Manager & Head Environment



- CC: 1) The Director, MoEF&CC, Indira Paryavaran Bhawan, Jor Bagh, Lodi Road, New Delhi-110003 for kind information.
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

**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. Nippon Denro Ispat Ltd.

Ref: Environmental Clearance for 3 MTPA steel plant vide letter No No J-11011/4/ 96 – IA–II, dated 31-12-1996.

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

S. NO	ENVIRONMENTAL CLEARANCE CONDITIONS	COMPLIANCE STATUS AS ON SEPTEMBER, 2017
i)	The project authorities must strictly adhere to the stipulations made by the Maharashtra Pollution Control Board and the State Government.	Regularly following the guidelines given by Maharashtra Pollution Control Board (MPCB) and State Government.
ii)	No expansion or modifications of the plant should carried out without prior approval of this Ministry	<ul style="list-style-type: none"> • Expansion or modifications of the plant is being carried out only after obtaining prior approval from the Ministry • Obtained EC for Expansion of Integrated Steel Plant capacity from 3 to 5 MTPA. • Obtained EC for Expansion of Integrated Steel Plant capacity from 5 to 10 MTPA
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 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.	<ul style="list-style-type: none"> • Adequate Pollution Control measures have been provided to each unit of the plant. • Gaseous emissions from the process units are well within the prescribed standards as notified by the Ministry.

iv)	<p>At least five ambient air quality monitoring stations should be provided in consultation with the State Pollution Control Board for measurement of SO₂, NO_x, 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.</p>	<ul style="list-style-type: none"> • Five Continuous Ambient Air Quality Monitoring stations have been installed in consultation with MPCB. All these stations are hooked up to MPCB & CPCB & data is being transmitted online on real time basis for PM_{2.5}, PM₁₀, SO₂ & NO_x. • 15 Nos. Continuous Stack Emission Monitoring systems are installed at all major stacks. • Data on Stack Emission, Ambient Air Quality and Work Environment Air Quality are submitted as per guidelines to; <ul style="list-style-type: none"> • MPCB - Once in three months, also as & when required, • MOEF&CC, Nagpur & Delhi – Once in Six month, • CPCB, New Delhi – Monthly basis
v	<p>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.</p>	<p>Various measures have been provided to control the fugitive emissions;</p> <ul style="list-style-type: none"> • Dust Suppression such as; <ol style="list-style-type: none"> 1) Dry Fog System / Water spraying in junction houses / Transfer Towers at RMHS & other units. 2) Cyclone with Venturi Scrubbing system at Sponge Iron Plant, SMS and Gas Cleaning Plant at Blast Furnace. 3) Vacuum based road sweeping machine and mist type mobile water tankers are provided for road emissions. • Dust Extraction system have been provided for; <ol style="list-style-type: none"> 1) Blast Furnace - Stock House – Bag Filter and Cast House – Reverse Air Bag Filter & ESP. 2) Sinter Plant – ESP & Bag Filter 3) SMS – GCP 1, 2 & 3 for primary & secondary fume extraction system.
vi	<p>Adequate effluent treatment facilities should be provided so that the treated effluent conforms to the prescribed standards.</p>	<ul style="list-style-type: none"> • Adequate effluent treatment facilities have been provided at all units and the treated water is recycled back in the process at Blast Furnace and HSM – SMS and all are closed loop system. • At 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 EAF slag cooling at SMS. There is no waste water discharge.
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.	<ul style="list-style-type: none"> • There is no discharge of waste water from the plant, 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 regularly. • All monitoring reports are submitted as per guidelines to; <ol style="list-style-type: none"> 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.	<ul style="list-style-type: none"> • As mentioned above in point - vi. • Water pollution control systems are provided to all plants and the treated water is recycled in the process and reused for EAF slag cooling and dust suppression. • Treated domestic water used for plantation.
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.	<ul style="list-style-type: none"> • Cooling water is re-circulated in the system / process after treatment in close loop 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.	<ul style="list-style-type: none"> • Coke Oven plant – has been set up after obtaining 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 capacity of the guard pond should be submitted to the Ministry within a period	<ul style="list-style-type: none"> • The water table of the sub surface water is very high, therefore it is technically not feasible to construct guard pond below ground level for holding wastewater. • However wastewater treatment system is installed at various units and the treated waste water is recycled / reused.

	of 6 months.	<ul style="list-style-type: none"> • Construction of guard pond in this area is not technically feasible and therefore has not been constructed.
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.	<ul style="list-style-type: none"> • 100% granulated Blast furnace slag is used in Cement making in JSW Group Company.
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.	<ul style="list-style-type: none"> • 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.	<ul style="list-style-type: none"> • Green Belt of adequate width is being developed. • Plantation is being done in consultation with Dapoli Krishi Vidyapeeth and District Forest Department.
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 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.	<ul style="list-style-type: none"> • 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. • 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.	<ul style="list-style-type: none"> • Noted, approval shall be obtained for construction 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 Jt. CEO.
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.	<ul style="list-style-type: none"> • The funds earmarked for environmental protection is utilized for the same purpose.
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
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 of Pollution) Act, 1981, the Environment (Protection) Act 1986 and the Public Liability Insurance Act, 1991 along with their amendments and rules.	Noted

Annexure II

COMPLIANCE REPORTS OF ENVIRONMENT CLEARANCE CONDITIONS

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 Ispat Steel Limited (formerly M/s Ispat Industries 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.

Sr. No.	ENVIRONMENTAL CLEARANCE CONDITIONS	COMPLIANCE STATUS AS ON SEPTEMBER, 2017
1	Waste gases from Blast furnace and coke ovens will be utilised for power generation. Fugitive emissions from raw material handling section will be suppressed by dry fogging system / water sprinkling.	<ul style="list-style-type: none">• Waste Gas from BF is used in 55 MW Captive Power Plant.• Dust suppression by dry fog systems / water spraying are provided at RMHS and other applicable areas.
2	The makeup water requirement for the proposed expansion will be 2,590 m ³ /day and the existing consumption is 833.3 m ³ /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.	<ul style="list-style-type: none">• 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 and 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 from the plant.• Sewage is treated in septic tanks & STPs.• 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 recirculation system is reused in the slag granulation plant as make up water to SGP recirculation water

		<p>system.</p> <ul style="list-style-type: none"> • Treated water from Coke oven by product is used in coke quenching
3	<p>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.</p> <p>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.</p>	<ul style="list-style-type: none"> • BF slag – granulated and utilized for cement making. • SMS- EAF slag is used in the sinter plant, in internal roads / land/ area development • Mill scale, flue dust from Blast Furnace, dust from Bag Filter used in Sinter plant/ GCP dust from SMS in Pellet plant • Low noise level pumps and motors is used. Ear plugs provided to employees working in high noise prone areas. • DG set provided with silencer
4	<p>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.</p>	Noted
5	<p>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.</p>	Noted
6	<p>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.</p>	Noted & shall be complied

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/Nm ³ by installing energy efficient technology.	<ul style="list-style-type: none">• Adequate dust control measures have been provided to all the units to mitigate particulate levels in the ambient air and all environmental monitoring parameters are well within the prescribed standards as per the Consent granted by MPCB.• 05 numbers of On-line ambient air quality monitoring with proper O&M and continuous stack monitoring facilities for all the process stacks have been provided Electrostatic precipitator (ESP), gas cleaning plant, scrubber, 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/Nm ³ . Fume extraction system shall be provided to induction furnaces to control the emissions within the prescribed standards.	<ul style="list-style-type: none">• Electrostatic precipitator provided to sinter & pellet plant,• Cast House Fume Extraction System, WHRB, DES and dust catcher followed by venturi scrubbers to blast furnace are provided & emission level well with in the prescribed standards.• There is no Induction Furnace, but in the Steel Melt Shop (SMS), Gas Cleaning Plant with bag filters having primary and secondary fume extraction system have been provided.
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.	Being complied
iv	Gaseous emission levels including secondary fugitive emissions from all the sources shall be 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.	Adequate measures have been taken to control the gaseous emission levels including secondary fugitive emissions at Blast Furnace Cast House with Bag filters and Gas Cleaning Plant for Electric Arc Furnace (EAF) of SMS from all the sources and are well within the permissible limits issued by the Ministry and regularly monitored. New standards for the sponge iron plant issued by the Ministry is being followed.

v	<p>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.</p>	<ul style="list-style-type: none"> • The makeup water requirement for the proposed expansion is within the water allocated and less than 2590 m³/hr. • Rain water harvesting system has 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 outside the plant premises except run off during monsoon. • Septic tank followed by soak pit and STP (3 Nos.) provided for sewage treatment.
vi	<p>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.</p>	<p>Roof top Rain water harvesting system has been established and the harvested rain water is being used in the cooling towers as make up water.</p>
vii	<p>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.</p>	<ul style="list-style-type: none"> • Regular monitoring of influent and effluent surface, sub-surface and ground water is being done by MoEF approved and NABL accredited labs & the results of all parameters are well within the prescribed standards • Analysis reports are being regularly submitted to the Regional Office, MoEF&CC, MPCB & CPCB.
viii	<p>The water consumption shall not exceed as per the standard prescribed for the steel plants.</p>	<p>Water consumption is well within the prescribed norms & CREP guidelines for the steel plants (less than 5 m³/ton of crude steel)</p>
ix	<p>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.</p>	<ul style="list-style-type: none"> • Transportation of raw material is mainly through sea route to captive jetty and further to the steel plant via conveyors. • 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.
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.	<ul style="list-style-type: none"> • All internal roads are concreted & 2 nos. of vacuum based road sweeper machines have been deployed for regular cleaning of roads. • 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.	<p>Proper handling, storage, utilization and disposal of all the solid waste the solid wastes like Iron ore fines, coke fines, fluxes and scales generated from the plant is used in Sinter plant.</p> <ul style="list-style-type: none"> • 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 and HSM. Sludge's are used in sinter making process
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 already been 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.	<ul style="list-style-type: none"> • The expansion of the steel plant from 3 to 5 MTPA and further in contiguous to earlier facilities, expansion of projects from 5 to 10 MTPA is currently being done. Accordingly, Green Belt is being developed and 33% green belt shall be completed in and outside premises as recommended by the EAC,

		<p>MoEF&CC in the next 5 years once the expansion projects are completed.</p> <ul style="list-style-type: none"> • Plantation is being done in consultation with District Forest Department & Krishi Vidyapeeth, Dapoli.
xv	All the recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the Steel Plants should be implemented.	Being Complied
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 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.	Being Complied
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.
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

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.	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 19 th 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 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
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.	<ul style="list-style-type: none"> • Five Continuous Ambient Air Quality Monitoring stations have been installed in consultation with MPCB. All these stations are hooked up to MPCB & CPCB & data is being transmitted online on real time basis for PM2.5, PM10, SO2 & NOx. • 22 Nos. Continuous Stack Emission Monitoring systems are installed at all major stacks. • Data on Stack Emission, Ambient Air Quality and Work Environment Air Quality are being submitted to; <ul style="list-style-type: none"> • 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 19 th may, 1993 and 31st December, 1993 or as amended from time to time. The treated wastewater shall be utilised for plantation purpose.	Being Complied

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).	Adequate noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation have been provided & measured noise level are well with in prescribed standards. The ambient noise level is 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 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 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 for safety reasons.
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.	<ul style="list-style-type: none"> • Environmental protection measures & safeguards recommended in EIA/EMP report are being complied. • Socio – economic development activities / programmes like supply of drinking water, health care camp & community development programmes 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.
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	Complied

	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.	
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 main gate of the company in the public domain.	Complied
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
xiv	The Environmental Statement for each financial year ending 31 st 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
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	Complied

	vernacular language of the locally concerned and a copy of the same should be forwarded to the Regional Office, Bhopal.	
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 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 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.	Noted

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.

Sr. No.	ENVIRONMENTAL CLEARANCE CONDITIONS	COMPLIANCE STATUS AS ON SEPTEMBER, 2017
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.	Noted & will be complied. On Line Continuous Monitoring systems have been installed in the existing facilities as per CPCB guidelines and shall be extended to 5 to 10 MTPA expansion units.
ii	The PP should ensure treatment of effluent particularly from Blast Furnace (BF) and Coke Oven plant. The plant should be designed to meet the cyanide standards stipulated by MoEF&CC under EPA Act 1986.	Noted & will be complied. ETP has been provided to the existing Blast Furnace (BF) and Coke Oven plant and are designed to meet the norms. Similarly ETP will be designed to meet the norms both for BF and Coke Oven plant in the expansion project.
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.	The expansion of the steel plant from 5 to 10 MTPA is in contiguous to the 3 to 5 MTPA projects. Accordingly, 33% green belt shall be completed in and outside premises as recommended by the EAC, MoEF&CC in the next 5 years once the expansion projects are completed.
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	Noted & will be complied.

	be implemented expeditiously and simultaneously with the implementation of the project, and annual report on CSR activity should be submitted to the Ministry.	
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 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.	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.
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.	Development of plant is beyond 100 mtrs from HTL & kept free. 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.	Noted & will be complied once the projects are completed
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.	Noted & will be complied
ix	No untreated effluent should be reused for any process.	Noted & shall be complied

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/Nm ³ and installing energy efficient technologies in the Plant	Noted & will be complied
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 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.	Noted & will be complied 5 Nos. online Ambient Air Quality Monitoring Stations have been installed in consultation with MPCB & the data connected to MPCB & CPCB Website.
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,	Noted & will be complied
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 from rainwater stored in rainwater harvesting structures.	Noted & will be complied
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 and shall be extended to the expansion projects.
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	Noted & will be complied

	adopted.	
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 applicable.
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.	Noted & will be complied
xviii	Vehicles and construction machinery are properly maintained to minimize the exhaust emission as well as noise generation to meet prescribed standards.	Noted
xix	Risk and Disaster Management Plan along with the mitigation measures should be prepared and implemented.	Risk & Disaster Management plan has been submitted to MoEF&CC, New Delhi
xx	All the recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the Steel Plants should be implemented.	Noted & shall be complied
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.	Noted & will be complied
xxii	All the permanent workers should be covered under ESI Scheme. The company should have 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 done for workers and employees & records are maintained on regular basis
B) General Conditions		
i	The project authorities must strictly adhere to the stipulations made by the Maharashtra Pollution Control Board and the State Government.	Regularly following the guidelines given by Maharashtra Pollution Control Board (MPCB) and State Government.
ii	No further expansion or modifications in the plant should be carried out without prior	Noted and is being complied

	approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC).	
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, SO2 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.	Already 5 Nos. online Ambient Air Quality Monitoring Station Installed with consultation of SPSB & data connected to MPCB & CPCB Website.
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 form time to time. The treated wastewater should be utilized for plantation purpose.	Noted & will be complied
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 (nighttime).	Noted and is being complied
vi	Occupational health surveillance of the workers should be done on a regular basis and records maintained as per the Factories Act.	As per the Factories Act, regular health checkups done 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.	Noted and will be complied. Rain Water Harvesting system has been implemented in the existing plant and shall be extended to the 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	Noted & will be complied

	programmes, educational programmes, drinking water supply and health care etc.	
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.	Noted & will be complied
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.	Complied.
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; 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.	Being Complied.
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	Being complied

	respective Zonal Office of CPCB and the SPCB. The Regional Office of this Ministry at Nagpur / CPCB / SPCB should monitor the stipulated conditions.	
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.	Being Complied
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.	Complied. Published in news paper as per guidelines namely in Local news paper Dainik Krushiwal, Raigad Times, Ramprahar dated August 30, 2015 and English news paper 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.	Noted & will be complied time to time.

1. The first part of the report is a general introduction to the subject of the study. It discusses the importance of the study and the objectives of the research.

2. The second part of the report is a detailed description of the methodology used in the study. It includes information about the sample, the data collection methods, and the statistical techniques used to analyze the data.

3. The third part of the report is a discussion of the results of the study. It presents the findings of the research and discusses their implications for the field of study. It also includes a comparison of the results with previous research in the area.

4. The final part of the report is a conclusion and a list of references. The conclusion summarizes the main findings of the study and provides recommendations for future research. The references list the sources of information used in the study.