Compliance Status of Environmental Clearance of Expansion of Steel Plant (6.8 MTPA to 9.7 MTPA, Crude Steel Production) at Tata Steel Works, Jamshedpur, District East Singhbhum, Jharkhand vide MoEF Letter no J-11011/691/2007-IA.II (I) dated May 11, 2010

<table>
<tr><th>No.</th><th>Conditions</th><th>Compliance Status</th></tr>
<tr><td colspan="3">Specific Conditions:</td></tr>
<tr><td>i.</td><td>Compliance to all the specific and general conditions stipulated for the existing plant by the Central/State Govt. shall be ensured and regular reports submitted to the Ministry and its Regional Office at Bhubaneswar.</td><td>The six monthly compliance reports are being submitted to the regional office regularly. The report for last 5 years submitted to Regional office at Ranchi/Bhubaneswar is as follows:
<table>
<tr><th>Six Monthly report</th><th>Submitted on</th></tr>
<tr><td>December 2016</td><td>November 25, 2016 vide letter no. EMD/C-41/183/16</td></tr>
<tr><td>June 2016</td><td>June 01, 2016 vide letter no. EMD/C-41/78/16</td></tr>
<tr><td>December 2015</td><td>December 05, 2015 vide letter no. EMD/C-33/215/15</td></tr>
<tr><td>June 2015</td><td>May 19, 2015 vide letter no. EMD/C-33/58/15</td></tr>
<tr><td>December 2014</td><td>November 18, 2014 vide letter no. EMD/C-33/175/14</td></tr>
<tr><td>June, 2014</td><td>June 24, 2014 vide letter no. EMD/C-33/116/14</td></tr>
<tr><td>December, 2013</td><td>December 16, 2013 vide letter no. EMD/C-33/237/13</td></tr>
<tr><td>June, 2013</td><td>June 22, 2013 vide letter no. EMD/C-33/124/13</td></tr>
<tr><td>December, 2012</td><td>December 29, 2012 vide letter no. EMD/C-33/330/12</td></tr>
</table>
The six monthly compliance reports along the monitored data is also uploaded in the website(http://www.tatasteelindia.com/ corporate-citizen/environment-compliance-reports.asp)</td></tr>
<tr><td>ii.</td><td>Efforts shall be made to reduce RSPM levels in the ambient air and a time bound action plan shall be submitted. On-line ambient air quality monitoring and continuous stack monitoring facilities for all the stacks shall be provided and sufficient air pollution control devices viz. Electrostatic precipitator (ESP), bag house, gas cleaning plant, bag filters etc. shall be provided to keep the emission levels below 50 mg/Nm^3 by installing energy efficient technology. Low NOx burners shall be installed to control NOx emissions. At no time, the emission level shall go beyond the prescribed standards. Interlocking facilities shall be provided so that process can be automatically stopped in case emission level exceeds the limit.</td><td>

4 online AAQMS have been commissioned to monitor PM_{10}, $PM_{2.5}$, SO_2, NO_2, CO, NH_3 continuously.
Low NOx burners have been provided in all the new units.
Similarly in almost all the units alert facility have been provided in case of units exceed any prescribed emission level as the interlocking is technically not feasible in all the production units.

</td></tr>
</table>

iii.	Existing electrostatic precipitator (ESP) shall be upgraded and provided to new units to control gaseous emissions within 50 mg/Nm^3. ESPs shall be provided to pellet plant, cast house and stock house of blast furnaces and LD#3 shop. Waste gas from the drying and grinding unit of pellet plant shall be cleaned by bag filters. Adequate provisions shall be made to control NOx emissions. Bag house shall be provided to Lime kilns. Data on ambient air quality stack emissions and fugitive emissions shall regularly submit to the Ministry's Regional Office at Bhubaneswar, Jharkhand Pollution Control Board (JPCB) and Central Pollution Control Board (CPCB) once in six months.	• There is a proposal to upgrade all the ESP of Sinter Plant (SP), F & G Blast Furnace & LD1 & LD2 steel melting shops. Among these 6 ESP at Sinter Plant have already been upgraded by the agency. The agreed emission for their upgraded emission has been guaranteed to be 50 mg/Nm^3 with an efficiency of 99.9%. • Bag Filters are provided in the Cast House and Stock House of all the Blast Furnaces. • 3 nos. of bag filters have been provided in the Pellet Plant to control waste gas from the drying and grinding unit. • 12 nos. of Bag House have been provided in Lime Plant in process and dedusting units. • A total of 6 nos. of schemes to upgrade Existing Electrostatic Precipitator (ESP) have been commissioned at SP 1, 2 & 3. Additional 10 nos. of schemes to upgrade APCE including ESP and Bag Filters are being commissioned at various locations inside Works which shall be completed by FY 19.
iv.	Land based fume extraction system shall be provided to coke oven battery # 10 and 11 to arrest fugitive emissions during charging and pushing operations. The coke oven gas shall be desulphurized by reduction of H_2S content of coke oven gas in the by-product recovery section to below 500 mg/Nm^3. On-line charging with high pressure liquor aspiration (HPLA) for extraction of oven gas, leak proof oven doors, hydraulic door and door frame cleaner, water sealed AP caps and charging & pusher side emission extractor device shall be provided for the coke oven batteries to maintain VOC emissions within permissible limit. Land based fume extraction system for	• Land based fume extraction, desulphurization facilities, online charging with HPLA, Hydraulic door and door frame clearance, water seal AP caps and charging and pusher side emission extractor device etc were in place in both coke ovens battery 10 & 11 to minimize leaks from doors CAPs, etc and also to meet the CREP recommendations. • Coke oven gas is being desulphurised in Battery 10&11. The monitoring reports shows that H_2S content is below 300 mg/Nm^3.

<table>
<tr><td></td><td>pushing emission control from coke ovens shall be provided.</td><td></td></tr>
<tr><td>v.</td><td>All the standards prescribed for the coke oven plants shall be followed as per the latest guidelines. Proper and full utilization of coke oven gases in power plant using heat recovery steam generators shall be ensured and no flue gases shall be discharged into the air. Sulphur shall be recovered from the coke oven gases from new product plant.</td><td>• As per the CREP guidelines, % of PLD, PLL & PLO of all batteries are being monitored thrice in a month. The max % of PLD is found to be 7.9 in Battery#6, max % of PLL found to be 0.9 in battery#6 and % of maximum PLO is found to be 1.6 in Battery#8 and maximum charging emission is found to be 52 sec in Battery#7.
• Byproduct gas is recovered and used for power generation captive Power House # 3, 4 & 5 and heating purpose in all the mills. Power is also being generated in TRT at G, H & I Blast Furnace. Sulphur is recovered from coke oven gas and sold to authorized buyers.
<table>
<tr><th>By Products</th><th>Quantity Generated in Apr'15- Mar'16</th><th>Quantity Generated in Apr'16- Mar'17</th><th>Used for</th></tr>
<tr><td>CO Gas</td><td>152812 Nm^3/hr</td><td>157533 Nm^3/hr</td><td>Power generation, heating</td></tr>
<tr><td>BF Gas</td><td>1854733 Nm^3/hr</td><td>1897386 Nm^3/hr</td><td>Power generation, heating</td></tr>
<tr><td>LD Gas</td><td>57675 Nm^3/hr</td><td>57687 Nm^3/hr</td><td>Power generation, heating</td></tr>
<tr><td>Inhouse Power generation</td><td>140.42 MW</td><td>141.22 MW</td><td>Supply to Works for operation</td></tr>
<tr><td>Sulpher</td><td>315 tonnes</td><td>365 tonnes</td><td>Sold to external authorized parties</td></tr>
</table></td></tr>
<tr><td>vi.</td><td>Only dry quenching method in the coke oven in new battery # 10 & 11 shall be adopted.</td><td>Coke Dry quenching (CDQ) facility is under commissioning in the new Coke Oven Battery # 10 and 11. The project likely to be completed by year 2018-19.</td></tr>
<tr><td>vii.</td><td>The National Ambient Air Quality Emission Standards issued by the Ministry vide G.S.R. No. 826(E) dated 16th November, 2009 shall be followed.</td><td>• 4 online AAQMS have been commissioned to monitor PM_{10}, $PM_{2.5}$, SO_2, NOx, CO, NH_3 continuously.
• There is one mobile monitoring facility & about 20 manual AAQMS located both inside the plant and also outside the plant area.
• All other AAQ parameters being analysed by approved environment laboratory are also found within prescribed limit.
• Monthly monitoring reports are being submitted to JSPCB and six monthly monitoring reports are being submitted along with EC compliance reports to Ministry's Regional office, CPCB and JSPCB.
• Please refer Annexure – I for monitoring reports for April 2016 to March 2017.</td></tr>
<tr><td>viii.</td><td>In-plant control measures for checking fugitive emissions from all the vulnerable sources including bag filters and fume extraction system shall be provided. Dry fog dust suppression system / water sprinkling system shall be provided in raw material handling areas</td><td>• Necessary air pollution control measures are provided to control fugitive dust emission. Please find enclosed a list of air pollution control devices for each of production unit as Annexure 1.
• All the areas of dedusting operation as junction house, transfer tower, conveyors are connected with bag filters and/or dry fog dust suppression system.
• All these locations are being monitored once in month.
• 4 nos. of unit for dust extraction system (DE) have been commissioned at G Blast Furnaces, RMBB and RMM. Additional 20 nos. of units for dust extraction</td></tr>
</table>

	to control fugitive dust emissions. Fugitive emissions from different sources shall also be controlled by covered conveyors, water sprinkling in open yards and with dry fogging in the closed zones. Further, specific measures like asphalting of the roads within premises shall be carried out to control fugitive emissions. Fugitive emissions shall be controlled, regularly monitored and records maintained.	system (DE) are being commissioned at various locations inside Works which shall be completed by Mar 2018. • A total of 350 nos. of points for dust suppression system (DS) have been commissioned at Lime Plant, RMBB 1& 2, and C & F Blast Furnaces. • A total of 43 nos. Industrial vacuum cleaners (IVC) have been commissioned at MPSPP, RMBB 1&2, SP 1, 2 & 3 and HBF. Additional 8 nos. of Industrial vacuum cleaners (IVC) are being commissioned at various locations inside Works which shall be completed by June 2017.
ix.	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 issued by the Ministry vide G.S.R. 414(E) dated 30th May, 2008 shall be followed.	• Secondary dust emission inside the plant in different critical areas is being monitored in about 350 locations monthly. • The average work area dust monitoring during April 2016 to March 2017 is 5.1 mg/m^3.
x.	As proposed, traffic decongestion plan shall be implemented in a time bound manner to reduce emissions in the Jamshedpur city and separate budget shall be allocated for implementing the same. Maximum inbound and out bound material movement shall be done by railway wagons only to reduce dust emissions. Measures like covered conveyors for handling of bulk materials, centralized screening of iron ore, rationalization of weighing system, use of higher capacity vehicles etc. shall be adopted to reduce dust emissions. Mechanized vacuum cleaning of arterial roads shall be carried out on	Under the traffic decongestion plan in Jamshedpur city : • Strengthening of marine drive (Western corridor) has been implemented • Proposal of Eastern Corridor is in discussion with Govt. of Jharkhand and key issues settled **Inside the plant:** • Automatic traffic control system is in place to control the traffic density as well as the safely including secondary emission inside the plant. • All the loaded trucks are ensured to be covered with tarpaulin sheets to avoid dust getting air borne and thus generation of secondary emission. • Sign board have been placed on all the critical areas to keep the speed of the vehicle within 35 kmph to control secondary emission along the internal road (VIP Road) and similarly the vehicle speed is limited to 16 kmph in the units. • All the loaded trucks/dumpers coming inside the plant with their valid PUC. • 4 nos. of mechanized sweepers are deployed within Works for regular cleaning and dust evacuation of roads. • Approx. 400 tonnes/month of dust from road being collected by these mechanized sweepers which are being reused in sinter making through RMBB.

	regular basis to further reduce dust emissions.	• 2 nos. of mechanized sweepers are deployed in Jamshedpur town for regular cleaning and dust evacuation of roads.
xi.	Vehicular pollution due to transportation of raw materials 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.	• Approx. all the raw material is being transported through railways to reduce the road transport load and vehicular pollution. • Dry fog dust suppression and water sprinklers are provided to control dust emission during loading and unloading activity. • Tyre washing facility has also been provided in 8 strategic locations to keep tyres clean to reduce dust emission on roads and being installed in 5 additional locations.
xii.	As proposed, total water requirement from River Subarnarekha shall not exceed 33.3 MGD although permission for 227 MGD water is obtained vide letter dated 7th January, 1992. Closed circuit cooling system shall be provided to reduce further water consumption. All the wastewater from various units shall be treated in the common effluent treatment plant (CETP) for primary, secondary and tertiary treatment shall be either recycled or used for dust suppression, slag quenching and green belt development etc. within the lease hold area. The phenolic effluent from the by-product recovery section of coke oven battery # 10 and 11 shall be treated in BOD plant. Wastewater containing suspended solids shall be passed through clarifloculation plant to recover and reuse the clarified water for cooling or cleaning. Mill effluent containing oil and suspended solids shall be passed through oil skimmers and filter press. No treated wastewater shall be released out the premises and 'Zero' discharge shall be adopted by recycling	• Due to water recycling facilities the total water requirement from River Subarnarekha shall not cross 33.3 MGD for Steel Works. • A central effluent treatment plant (CETP) of 4 MGD has been constructed to treat and recycle most of the effluent by tertiary treatment with Reverse Osmosis (RO). • CETP is being augmented to increase treatment capacity from 4 to 8 MGD. • New BOD plant has been commissioned and existing BOD has been upgraded to treat the additional effluent generated from Coke Oven Batteries including Battery 10 & 11. • Closed circuit cooling systems have been installed. Catch pits at all the five designated drains have been constructed to recycle the treated effluent within plant. • All the mills are equipped with respective effluent treatment plants with settling tanks and oil skimming facility.

	all the treated water in the plant itself including from the existing plant.	
xiii.	Efforts shall be made to make use of rain water harvested. If needed, capacity of the reservoir shall be enhanced to meet the maximum water requirement. Only balance water requirement shall be met from other sources.	• There are two ponds inside Steel works viz. Upper Cooling Pond (UCP) and Lower Cooling Pond (LCP), which stores and harvest most of the surface run off with cooling water of the units. • 38 nos. of rainwater harvesting structures in different office buildings have been provided inside the plant area of which some area has the facility of Ground Water Recharge system. • RWH structure has been constructed based on the maximum rainfall of last 20 yrs.
xiv.	Continuous monitoring of Total Organic Compounds (TOC) in the wastewater treated in BOD plant from the coke oven plant shall be done at the outlet of ETP (BOD plant). All the treated wastewater shall be monitored for pH, BOD, COD, oil & grease, cyanide, phenolic compounds, Chromium+6 etc. besides other relevant parameters.	• The BOD plant has facility of continuous monitoring of TOC. • Similarly monitoring of other parameters on the outlet of the BOD plant is being done regularly. • The monthly monitoring data is being submitted to JSPCB and six monthly reports are being submitted to regional office of MoEFCC at Ranchi and CPCB. • Please refer **Annexure – I** for monitoring reports for April 2016 to March 2017.
xv.	Regular monitoring of influent and effluent surface, sub-surface and ground water shall be ensured and treated wastewater shall 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 Bhubaneswar, Jharkhand SPCB and CPCB.	• All the effluent viz. catch pits, service water etc are being monitored regularly. • The treated effluents such as all ETP outlets and drains are being analyzed regularly. • Online effluent monitoring system has been commissioned in all the drains to monitor effluent quality on a real time basis. • Online effluent monitoring data is connected with CPCB/JSPCB. • River Water quality of Subarnarekha and kharkai is also being monitored as a part of regular monitoring of surface water quality. • There are two cooling water pond whose water quality is also regularly monitored as part of sub surface water quality. • Ground water quality is also being monitored at 7 locations both inside and outside plant premises. • Monthly monitoring data is being submitted to JSPCB and six monthly reports are being submitted to regional office of MoEFCC at Ranchi and CPCB.
xvi.	'Zero' effluent discharge shall be strictly followed and no additional wastewater shall be discharged outside the premises. Domestic wastewater shall be treated in septic tanks followed by soak pit and	As per the water balance and plan of zero effluent discharge, all the plant effluent is being recycled in to different process units for various uses. The rain water which is being discharged into the nearby nallah is being collected and in low lying area and settled water is let out thereafter. Maximum effort is being taken to minimize the discharge of rain water.

<table>
<tr><td></td><td>used for green belt development.</td><td></td></tr>
<tr><td>xvii.</td><td>As proposed, the water consumption shall not exceed 5.7 m^3/Ton of steel at 9.7 MTPHY stage.</td><td>The specific water consumption has been reduced to 3.83 m^3/tcs during year 2016-17 as compared to 5.58 m^3/tcs for the year 2013-14.<table><tr><th>Year</th><th>Specific Water Consumption (m^3/tcs)</th></tr><tr><td>FY 14</td><td>5.58</td></tr><tr><td>FY 15</td><td>5.54</td></tr><tr><td>FY 16</td><td>4.39</td></tr><tr><td>FY 17</td><td>3.83</td></tr></table></td></tr>
<tr><td>xviii.</td><td>All the blast furnace (BF) slag shall be granulated and provided to cement manufacturers for further utilization in cement making as per the MoUs signed with various companies including M/s Lafarge, M/s Eco-cement & M/s ACC. LD slag after metal recovery shall be used in sinter plant, blast furnaces and LD convertor, aggregates making, road ballast making, soil conditioning etc. All the flue dust generated shall be recycled within the plant to the maximum extent. Mill scales, LD sludge, lime fines and flue dust shall be recycled back to the sinter plant. The BF gas cleaning plant sludge shall be used for manufacturing briquettes.</td><td>• Online slag granulation facilities have been implemented in the all Blast Furnaces.
• All the BF Slag is being granulated and made available to the Cement plants for cement making.
• Blast Furnace gas cleaning plant (GCP) sludge is re-utilised in the process as well as being used for manufacturing briquettes.
• Additional initiatives undertaken for improving the utilization of LD Slag:
o Co-processing of LD Slag at Cement Kilns.
o Open & Closed Steam Ageing inside Works
o Use of LD Slag in Road Making & railway Ballast
• Collaboration with expert external agency for processing and subsequent use of LD Slag as aggregates and ballast.</td></tr>
<tr><td>xix.</td><td>As proposed, coal tar sludge and BOD sludge shall be recycled for coke making by mixing with the coal charge and used in the coke ovens. Chromium sludge shall be disposed in a HDPE lined secured landfill as per the CPCB guidelines within the complex. All the other solid waste including broken refractory mass shall be properly disposed off in environment-friendly manner. Oily waste and spent oil shall be provided to authorized</td><td>• BOD Sludge and Coal Tar sludge generated from By Product Plant is being recycled in coke plant by mixing with raw materials.
• All other kind of process wastes are being reutilised in sinter plant.
• In house secured landfill with HDPE liner has been constructed to dispose chrome sludge generated from Cold Rolling Mill.
• A de-oiling plant has been commissioned and in operation to reuse the mill scale and sludge in the Sinter Plant by mixing with raw materials.</td></tr>
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<table>
<tr><td></td><td>recyclers/reprocessors.</td><td></td></tr>
<tr><td>xx.</td><td>All the slag shall be used for land filling inside the plant or used as building material only after passing through Toxic Chemical Leachability Potential (TCLP) test. Toxic Chromium sludge and other hazardous substances recovered from the slag and output waste shall be disposed off in secured landfill as per CPCB guidelines.</td><td>• LD Slag is being used for road making.
• The TCLP test conducted by external approved agency.
• Leachate potential of all Heavy metals is negligible.
• Chrome Sludge is being disposed in the secured landfill inside Works.</td></tr>
<tr><td>xxi.</td><td>As proposed, Jugsalai muck dump (JMD) shall be reclaimed in a time bound manner by covering the dump site with geo-netting and vegetation alongwith localized water harvesting.</td><td>The reclamation of JMD has been completed. A rainwater harvesting facility has been constructed at the top of the JMD which is being utilized for development of greenery. Besides this, there is a provision to pump surface drainage carry out from the plant to JMD area for development of greenery.</td></tr>
<tr><td>xxii.</td><td>A time bound action plan shall be submitted to reduce solid waste, its proper utilization and disposal to the Ministry's Regional Office at Bhubaneswar, Jharkhand SPCB and CPCB.</td><td>An action plan for Solid waste management has been submitted to JSPCB vides our letter no. EMD/C-02/460/11 dated December 16, 2011. We had also submitted road map regarding future generation and the disposal of solid waste vide our letter no. EMD/C-33/124/13 dated June 22, 2013.
We have taken a number of steps to improve the solid waste utilization. For the period during April 2016 to March 2017, the solid waste utilization was 81.9% excluding storage of LD slag at Galudih for processing. Various actions have been already planned to improve the solid waste utilization further.</td></tr>
<tr><td>xxiii.</td><td>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 shall be submitted to the Ministry's Regional Office at Bhubaneswar, Jharkhand SPCB and CPCB.</td><td>• Most of the solid waste is being reutilized.
• Information regarding solid waste and hazardous waste is being submitted in Environment Statement to the Board every year.</td></tr>
<tr><td>xxiv.</td><td>Proper utilization of fly ash shall be ensured as per Fly Ash Notification, 1999 and subsequent amendment in 2003. All the fly ash shall be provided to cement and brick manufacturers for further utilization and</td><td>The quantity of generation of fly ash is on decreasing trend.
Generation for last four years is as follows:
<table>
<tr><th>Year</th><th>Quantity generated in tonnes</th><th>Quantity utilized</th></tr>
<tr><td>2012-13</td><td>31,246</td><td rowspan="4">Disposed in ash pond through HCSD system</td></tr>
<tr><td>2013-14</td><td>20,951</td></tr>
<tr><td>2014-15</td><td>22,474</td></tr>
<tr><td>2015-16</td><td>15,348</td></tr>
</table></td></tr>
</table>

	'Memorandum of Understanding' shall be submitted to the Ministry's Regional Office at Bhubaneswar.	<table><tr><td>2016-17</td><td>5.012</td><td></td></tr></table> All the boilers have been converted from coal fired to gas fired. Thus there is no additional generation of fly ash in the power plant.
xxv.	A Risk and Disaster Management Plan along with the mitigation measures shall be prepared and a copy submitted to the Ministry's Regional Office at Bhubaneswar, Jharkhand SPCB and CPCB within 3 months of issue of environment clearance letter.	Disaster Management Institute, Bhopal has verified and certified the Risk assessment report and Disaster Management Plan vide their letter no. DMI/IDMU/Con-227/24 dated April 16, 2012. The same has been submitted to JSPCB.
xxvi.	As proposed, green belt shall be developed in more than 33 % area within and around the plant premises as per the CPCB guidelines in consultation with DFO.	We have planted approx. 60,801 saplings during April 2016 to March 2017 inside the works and Jugsalai Muck Dump area and in Township. Every year plantation done in available space. The following plant species are being planted: *Ficus, karanj, Cicilipinia, Palm, Ashoka, Mahogany, Caesalpinia Arjun, Sita Ashok, Bakul, Spathodia, Kanchan, Jural, Tabulia, Sissam, Termanelia Sp.,Arica palm, foxtail palm, Tecoma, Kannel, Tababia, Ghandhraj, calendra, Tagar, Hemelia, Kamani, Karbi, Calendra etc.*
xxvii.	Prior permission from the State Forest Department shall be taken regarding likely impact of the expansion of the proposed steel plant on the reserve forests. Measures shall be taken to prevent impact of particulate emissions / fugitive emissions, if any from the proposed plant on the surrounding reserve forests viz. Jora Pahar PF, Sand Pcha Rahar PF, Deluse RF located within 10 km radius of the project. Further, Conservation Plan for the conservation of wild fauna in consultation with the State Forest Department shall be prepared and implemented.	• Prior Permission from State Forest Department has been obtained vide their memo. No. 2605 dated October 29, 2010. • Wildlife Conservation Plan has been submitted to PCCF, Jharkhand vide our letter no. EMD/C-33/368/11 dated October 07, 2011. • A revised Wildlife Conservation Plan for Tata Steel has been prepared with the help of approved external agency recommended by State Forest Department and submitted for approval vide our letter no. EMD/C-41/128/16 dated August 22, 2016. • The same has been reviewed by PCCF-Wildlife, Jharkhand and final approved is awaited.
xviii.	All the recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the Steel Plants shall be implemented	CREP recommendations have been implemented.

xxix.	All the commitments made to the public during the Public Hearing / Public Consultation meeting held on 18th June, 2009 shall be satisfactorily implemented and a separate budget for implementing the same shall be allocated and information submitted to the Ministry's Regional Office at Bhubaneswar.	All the commitments made to the public during the Public Hearing are being implemented.
xxx.	At least 5 % of the total cost of the project *i.e.* ₹ 750.00 Crores shall be earmarked towards the corporate social responsibility and item-wise details along with time bound action plan shall be prepared and submitted to the Ministry's Regional Office at Bhubaneswar. Implementation of such program shall be ensured accordingly in a time bound manner.	It is being complied as per the requirement under the Companies Act. The amount spent by the Company on Corporate Social Responsibility (CSR) activities during 2015-16 was ₹ 150.36 crore while during 2014-15, it was ₹168.26 crore. It is reported in the Company's Integrated Report. These reports are available on the website of Tata Steel and may be seen/downloaded from http://www.tatasteel.com/investors/performance/109th-annual-report-related-documents.asp
xxxi.	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.	As the project is already commissioned. Compliance to this condition is not applicable.
General Conditions:		
i.	The project authorities must strictly adhere to the stipulations made by the Jharkhand Pollution Control Board (JSPCB) and the State Government.	We are regularly obtaining the CTO and authorization under Hazardous Waste.
ii.	No further expansion or modifications in the plant should be carried out without prior approval of the Ministry of Environment and	The Project informed that there shall be prior permission obtained for the concerned authorities in case of any medications, augmentation, and product mix change. The detail of production of various products for last three years is as follows:

Product	Unit	Capacity	2014-	2015-	2016-

	Forests.				**granted in EC**	**15**	**16**	**17**
			Hot Metal	MTPA	12.5	10.163	10.655	10.826
			Crude Steel		11	9.331	9.959	10.005
			Saleable Steel		10.8	9.073	9.697	9.714
iii.	The gaseous emissions from various process units shall conform to the load/mass based standards notified by this Ministry on 19th May, 1993 and standards prescribed from time to time. The state Board may specify more stringent standards for the relevant parameters keeping in view the nature of the industry and its size and location.	There is a proposal to upgrade all the ESP of Sinter Plant (SP), F& G Blast Furnace & LD1 & LD2 steel melting shops. Among these 6 ESP of Sinter Plant have already been upgraded by the agency. The agreed emission for their upgraded emission has been guaranteed to be 50 mg/Nm^3 with an efficiency of 99.9%. ESPs have been provided in pellet plant (Hood Stack, Wind Box Stack and Central dedusting stack) and bag filters in other areas where dedusting as the main criteria. Bag Filters are provided in the Cast House and Stock House of H and I Blast Furnace each. As explained as above, 3 bag filters have been provided in the pellet plant to control waste gas from the drying and grinding unit of pellet plant.						
iv.	At least four ambient air quality monitoring stations shall be established in the downward direction as well as where maximum ground level concentration of SPM, SO_2 and NOx are anticipated in consultation with the Jharkhand PCB. Data on ambient air quality and stack emission should be regularly submitted to this Ministry including its Regional Office at Bhubaneswar and the Jharkhand PCB/CPCB once in six months.	4 online AAQMS have been commissioned to monitor PM_{10}, $PM_{2.5}$, SO_2, NOx, CO, NH_3 continuously inside the Works. There is one mobile monitoring facility & 20 manual AAQMS located both inside the plant and also outside the plant area. Monitoring report is being submitted to JSPCB, CPCB and Regional Office. The monitoring data for the period April 2016 to March 2017 indicates that all the parameters (except PM_{10} and $PM_{2.5}$ in few occasions) are within the prescribed limit of NAAQS. PAHs, Lead and Ammonia are being done by CPCB recognized environment laboratory. The ambient air quality represents the status of environment, which includes impact of several external factors such as other industrial activities, traffic movement, commercial and domestic activities etc.						
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 form time to time. The treated wastewater shall be utilized for plantation purpose.	Surface and ground water monitoring at various locations are being done and analysis reports also being sent to RO, MoEFCC and JSPCB.						
vi.	The overall noise levels in and around the plant area shall be kept well within the standards (85 dBA) by providing noise	Personal Protective Equipment (PPE) have been provided to all the workers/officers to avoid any accompanied noise hazards. Facilities like silencers, enclosers, hood etc have been provided to reduce noise at source. The monitored data in the work zone reveals that the noise level does not						

<table>
<tr><td></td><td>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).</td><td>exceeds >85 dBA for 8 hr exposures. Similarly in the ambient also, the noise levels meet the prescribed standards.
The ambient noise level monitoring is being done at different part of the Jamshedpur town in frequent interval outside Steel Works to assess the ambient noise level status. Noise level in the town is found beyond the standard in few occasions. The possible reason of equivalent noise levels in respect of all categories of areas exceeded the standards for day and night times is due to heavy traffic movement in the town, market and commercial activities, festivals and other domestic celebrations and frequent religious rituals.</td></tr>
<tr><td>vii.</td><td>Occupational Health Surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.</td><td>Regular health surveillance is being conducted i.e. 2 times in a year to all the workers who have already attended more than 40 years of age. The workers having age less than 40 years are under gone occupational health surveillance program once in a year.</td></tr>
<tr><td>viii.</td><td>The company shall develop surface as well as ground water harvesting structures to harvest the rainwater for utilization in the lean season besides recharging the ground water table.</td><td>Rain Water Harvesting structure of 38 Nos. has been provided inside the plant area of which some area has the facility of Ground Water Recharge system. RWH structures have been constructed based on the maximum rainfall of last 20 yrs.</td></tr>
<tr><td>ix.</td><td>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, educational programmes, drinking water supply and health care etc.</td><td>Socio economic development activities are regularly undertaken in and around Jamshedpur through the two agencies namely, Tata Steel Rural Development Society and Tata Steel Community Development & Welfare Services Centers. The development activities undertaken in the surrounding community are need based and are in the field of health care, education, mid-day meals in schools, sports and culture, self-employment, drinking water, rural electrification, etc. Tata Steel also facilitate the Institutes like R D Tata Technical Institute, Tata Football Academy, Tata Archery Foundation, etc. which encourages the local talent to develop themselves and participate at National and International levels.
Details of CSR spend in Jamshedpur
<table>
<tr><th>Fin Year</th><th>Rs Crs</th></tr>
<tr><td>FY10-11</td><td>97.15</td></tr>
<tr><td>FY11-12</td><td>106.43</td></tr>
<tr><td>FY12-13</td><td>120.34</td></tr>
<tr><td>FY13-14</td><td>136.95</td></tr>
<tr><td>FY14-15</td><td>76.85</td></tr>
<tr><td>FY15-16</td><td>57.42</td></tr>
<tr><td>Total</td><td>595.14</td></tr>
</table></td></tr>
<tr><td>x.</td><td>As proposed, ₹ 2,107.00 Crores and ₹ 60.00 Crores shall be earmarked towards total capital cost and recurring cost/annum for environmental pollution</td><td>Capital expenditure on environment is being spent on Air Pollution Control, Solid Waste Management, Zero Waste Water Discharge and Others including Greenery, Online Monitoring, etc. The total budget for the same as allocated by TSL Board is ₹ 2340 Crores. Form this budgeted amount, total commitment has been made for ₹ 1,508 Crores till end of March 2017.</td></tr>
</table>

	control measures and judiciously utilized to implement the conditions stipulated by the Ministry of Environment and Forests as well as the State Government. The funds so provided shall not be diverted for any other purpose.	The funds for capital investment on pollution control equipment are not diverted.
xi.	The Regional Office of this Ministry at Bhubaneswar/CPCB/Jharkhand SPCB will monitor the stipulated conditions. A six monthly compliance report and the monitored data along with statistical interpretation shall be submitted to them regularly.	Six monthly compliance reports and the monitored data are being submitted regularly.
xii.	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 JSPCB and may also be seen at Website of the Ministry of Environment and Forests at http:/envfor.nic.in. This shall be advertised within seven days from the date of issue of the clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same shall be forwarded to the Regional office.	The Notice has been advertised in two local newspapers viz. Hindustan (Hindi) and Hindustan Times (English) on May 18, 2010 and communication to this effect was also sent to the MoEF vide our letter no. EMD/C-33/128/10 dated June 15, 2010.
xiii.	A copy of Clearance letter shall be sent by 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 copy of Clearance letter has been sent to Zila Parishad, DIC, Local Body and all concerned vide EMD/C-33/129-137/10 dated June 15, 2010.

	The clearance letter shall also be put on the website of the company by the proponent.	
xiv.	The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of the MoEF, the respective Zonal Office of CPCB and the JPCB. The criteria pollutant levels namely; SPM, RSPM, SO_2, NOx (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the projects shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.	Six monthly compliance reports and the monitored data are being submitted regularly. The ambient air quality parameters are being monitored and displayed at the main gate of the company in the public domain.
xv.	The project proponent shall 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 MOEF at Bhubaneswar, the respective Zonal Office of CPCB and the JSPCB. The Regional Office of this Ministry at Bangalore / CPCB / JPCB shall monitor the stipulated conditions.	Six monthly compliance reports are being submitted regularly both in hard copy and by e-mail.
xvi.	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	The environmental statement for each financial year in Form-V is regularly being submitted to the Jharkhand State Pollution Control Board.

	Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of environmental conditions and shall also be sent to the respective Regional Offices of the MOEF by e-mail.	
xvii.	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.	It has been complied as the project has already been completed.