



**Dr. Amit Ranjan Chakraborty**  
Chief Environment Management

EMD/C-38/ 338 /19

May 26, 2020

**Additional Principal Chief Conservator of Forests**

(Eastern-Central) Regional Office (ECZ)

Ministry of Environment, Forests & Climate Change

Bungalow No. A-2, Shyamali Colony

**RANCHI – 834 002**

**Subject: Submission of Six Monthly (October 2019 to March 2020) EC Compliance and monitoring reports of Cold Rolling Mill Complex (CRMC) to produce Cold Rolled Coils (2,50,000 TPA) and Hot Rolled Pickled Coils (50,000 TPA) and Cold Rolling Mill Complex (CRMC) Capacity Expansion (0.3 MTPA to 0.8 MTPA) (Ph-II) Jamshedpur, District East Shinghbhum, Jharkhand.**

Reference:

- 1.MoEF EC letter no. MoEF Letter no J-11011/199/2007-IA.II (I) dated August 7, 2007
- 2.MoEF EC letter no. MoEF&CC Letter no F.NO J-11011/22/2013-IA (II) I dated September 15, 2015

This has reference to the captioned subject and cited references. It is to inform that we are herewith submitting six monthly Compliance reports for the conditions stipulated in the Environment Clearance of Cold Rolling Mill Complex (CRMC) to produce Cold Rolled Coils (2,50,000 TPA) and Hot Rolled Pickled Coils (50,000 TPA) and Cold Rolling Mill Complex (CRMC) Capacity Expansion (0.3 MTPA to 0.8 MTPA) (Ph-II) Jamshedpur, District East Shinghbhum, Jharkhand. the period from **October 2019 to March 2020** along with monitoring data report for your kind consideration.

**TATA STEEL LIMITED**

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Corporate Identity Number L27100MH1907PLC000260 Website www.tatasteel.com



**Dr. Amit Ranjan Chakraborty**  
Chief Environment Management

The copy of above compliance report is also being sent in soft format through email (ro.ranchi-mef@gov.in) for your kind perusal. Also copy of 0.8 MTPA EC Compliance has been uploaded on MoEFCC website on portal <http://environmentclearance.nic.in/>.

Hope the above are in line with the statutory requirements.

Thanking you

Yours Faithfully

**For Tata Steel Limited**

**Dr. Amit Ranjan Chakraborty**  
**Chief, Environment Management**

Encl:

1. Six Monthly Compliance Status report of Environmental Clearance of Cold Rolling Mill Complex (CRMC) to produce Cold Rolled Coils (2,50,000 TPA) and Hot Rolled Pickled Coils (50,000 TPA) Crude Steel Production
2. Six Monthly Compliance Status report of Environmental Clearance of Cold Rolling Mill Complex (CRMC) Capacity Expansion (0.3 MTPA to 0.8 MTPA) (Ph-II) Crude Steel Production
3. Monitoring and analysis reports for April 2019 to September 2019.

Copy to:

1. Zonal Officer, Central Pollution Control Board, Southern Conclave, Block 502, 5<sup>th</sup> and 6<sup>th</sup> Floors, 1582 Rajdanga Main Road, Kolkata - 700 107
2. Member Secretary, Jharkhand State Pollution Control Board, T.A. Division Building, HEC Campus, Dhurwa, Ranchi - 834004
3. Regional Officer, Jharkhand State Pollution Control Board, Jamshedpur

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# **ENVIRONMENTAL CLEARANCE COMPLIANCE STATUS REPORT**

**October 2019 to March 2020**

**CRM Bara, Tata Steel Limited, Jamshedpur**

**Six Monthly Compliance Status report of Environmental Clearance of Cold Rolling Mill Complex (CRMC) to produce Cold Rolled Coils (2,50,000 TPA) and Hot Rolled Pickled Coils (50,000 TPA)**

**ENVIRONMENTAL MANAGEMENT DEPARTMENT  
TATA STEEL LIMITED  
JAMSHEDPUR**

**Compliance Status of Environmental Clearance of Cold Rolling Mill Complex (CRMC) to produce Cold Rolled Coils (2,50,000 TPA) and Hot Rolled Pickled Coils (50,000 TPA) at Bara, Jamshedpur, District East Shinghbhum, Jharkhand vide MoEF Letter no J-11011/199/2007-IA.II (I) dated August 7, 2007**

SN	Compliance Conditions	Compliance Status
	<b>Specific Conditions:</b>	
i	Fume extraction system shall be provided to extract acid vapors or fumes from pickling line, Pickling bath shall be covered with tight granite covers. Ventilation chamber shall be provided in Cold Rolling Mill (CRM) plant to control LPG emissions.	Fume extraction system including scrubber, Fume extraction ductwork and fan has been installed in Pickling line. Ventilation system has also been installed.  This system is used to collect, scrub, clean and vent fumes and vapors from the wash tank, pickling tanks, rinse tank, storage and re-circulating tanks. Components of this system are basically the scrubber, fan, ductwork and controls.
ii	Total water requirement from M/s JUSCO is about 1712 m <sup>3</sup> /day as per the present available data. No ground water shall be used. Wastewater treatment plant for treatment of wastewater shall be provided using oil separation, acid neutralization and clarification. The treated effluent shall be used for green belt development. The plant as indicated shall adopt zero discharge concepts in disposing the wastewater. Domestic effluent shall be treated in Sewage Treatment Plant.	Plant has been designed to limit water requirements from JUSCO within 1712 m <sup>3</sup> /day.  Water consumption monitored regularly & it is within the prescribed permission given in the EC. At present, average usage of water is 1302 m <sup>3</sup> /day (Industrial 1096 m <sup>3</sup> /day and April 2019 to March 2020 domestic 206 m <sup>3</sup> /day) for the period.  Ground water is not being used for any purpose. Effluent treatment plant has been installed and Treated effluent is being used for greenbelt development. Sewage treatment plant has been installed.
iii	Iron oxide from Acid Regeneration Plant (ARP) shall be sold to authorized vendors for further use. Non-hazardous solid waste from neutralization process in CRM shall also be properly disposed of. Oily sludge shall be sold to authorized re-cyclers / re-processors for proper disposal through incineration.	3047.16 Ton of Iron Oxide generated from April 2019 to March 2020 and sold to authorized vendors. Oily sludge (oily Scum) about 677.6 Tons during April 2019 to March 2020 is being recycled by authorized recyclers and WWTP sludge about 388.3 Tons has been disposed by Adityapur Waste Management Pvt Ltd.
iv	Green belt shall be developed in 2.5 ha (33%) out of the total of 7.4 ha within and around the plant premises as per the CPCB guidelines in consultation with DFO.	We have planted 1020 nos. of saplings during April 2019 to March 2020 inside plant, in the periphery and other available spaces. So far 2.45 ha area has been planted with 5828 Nos of saplings (Trees and Shrubs) such as <i>Neem</i> , <i>Karanj</i> , <i>Tectona grandis</i> , <i>Dalbergia sissoo</i> , <i>Alistonia Scholaris</i> , <i>Lagestromia Flosregia</i> , <i>Silver Oak</i> , <i>Juniperous Chinensis</i> , <i>Ficus Benjamina</i> , <i>Jacaranda Mimosifolia</i> , <i>Azadirachta indica</i> , <i>Terminalia arjuna</i> , <i>Bauhinia variegata</i> , <i>Terminalia tomentosa</i> , etc.

**Compliance Status of Environmental Clearance of Cold Rolling Mill Complex (CRMC) to produce Cold Rolled Coils (2,50,000 TPA) and Hot Rolled Pickled Coils (50,000 TPA) at Bara, Jamshedpur, District East Shinghbhum, Jharkhand vide MoEF Letter no J-11011/199/2007-IA.II (I) dated August 7, 2007**

v	Permission from the State Government shall be obtained regarding impact of the proposed project on the Dalma Reserve Forest.	It has been stated that the project has obtained necessary permission from the State Forest Department and approval received vide letter no. 1204 dated 17-04-2008 & letter no 2614 dated 02-09-2014.
vi	As mentioned in EIA / EMP, 10.20 Crores and 0.21 Crores earmarked towards the capital cost and recurring cost per annum respectively for Environmental & Pollution Control Measures shall be judicially utilized to implement the conditions stipulated by MoEF as well as the State Government. The funds shall not be diverted for any other purpose.	A total amount of Rs 38.24 Crores has been Spent on environmental and pollution control measures which include capital cost and recurring cost for Utilities, Fume Extraction scrubbers, Boiler, Acid Regeneration Plant and Effluent Treatment Plant etc till date.  In FY20 total expenditure for environment protection is 6.86 Crore. The funds for capital investment on pollution control equipment are not diverted.
<b>General Conditions:</b>		
i.	The project authorities shall strictly adhere to the stipulations made by Jharkhand State Pollution Control Board (Jharkhand SPCB) and the State Government.	CRM Bara complex project is being strictly adhering to the stipulations made by the JSPCB and State Government.
ii.	No further expansion or modifications in the plant shall be carried out without prior approval of MoEF.	No further expansion or modifications in the plant has been carried out without prior approval.
iii.	The gaseous emissions from various process units shall conform to the load / mass based standards notified by this Ministry on 19th May, 1993 and standards prescribed from time to time. The state board may specify more stringent standards for the relevant parameters keeping in view the nature of the industry and its size and location. At no time, the emission level shall go beyond the prescribed standards. Interlocking facilities shall be provided so that process can be automatically stopped in case emission level exceeds the limit.	Gaseous emission levels including fugitive emission monitoring is being carried out on regular basis and records are maintained and submitted to JSPCB and MoEF&CC.  Data for the period April 2019 to March 2020 of fugitive emission attached in <b>Annexure-I</b> . We follow the latest guidelines/ code of practice issued by CPCB for secondary fugitive emission monitoring.



**Compliance Status of Environmental Clearance of Cold Rolling Mill Complex (CRMC) to produce Cold Rolled Coils (2,50,000 TPA) and Hot Rolled Pickled Coils (50,000 TPA) at Bara, Jamshedpur, District East Shinghbhum, Jharkhand vide MoEF Letter no J-11011/199/2007-IA.II (I) dated August 7, 2007**

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 <sub>2</sub> and NO <sub>x</sub> 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 Bhubaneswar, SPCB and CPCB once in six months.	<p>Ambient air quality monitoring stations has been identified at four locations in the plant premises.</p> <ol style="list-style-type: none"> <li>1. Near Mill dispatch shutter</li> <li>2. Near Pickling dispatch shutter</li> <li>3. Near Roll Shop shutter</li> <li>4. Near HR Receiving Shutter</li> </ol> <p>One Online ambient air quality monitoring has been provided inside CRM Complex Bara and Continuous stack monitoring facilities has been provided in boiler stack and SB Machine. Server connectivity with CPCB/JSCPB is in under progress.</p> <p>Fume extraction system including scrubber, fume extraction ductwork and fan has been installed in pickling line. Ventilation system has also been installed. Water sprinkling and mechanized sweeping machine frequency has been increased to control duct emission. Monitoring data is attached as <b>Annexure-I</b>.</p>
V	In-plant control measures for checking fugitive emissions from all the vulnerable sources shall be provided. Further, specific measures like water sprinkling shall be carried out and fugitive emissions shall be controlled, regularly monitored and records maintained.	<p>Fugitive emission monitoring is being carried out on regular basis for the following locations:</p> <ol style="list-style-type: none"> <li>1. Near Mill Stand</li> <li>2. Pickling Exist coil car towards BC Bay</li> <li>3. Wet area Rinse section, Near Pickling RC Tank No-5</li> </ol> <p>Gaseous emission levels including fugitive emission monitoring is being carried out on regular basis, records are maintained and submitted to JSPCB and MoEF&amp;CC. Data for the period April 2019 to March 2020 of fugitive emission attached in <b>Annexure-I</b>.</p>
VI	Secondary fugitive emissions shall be controlled within the latest permissible limits issued by the Ministry and regularly monitored. Guidelines / Code of Practice issued by the CPCB in this regard shall be followed.	<p>Gaseous emission levels including fugitive emission monitoring is being carried out on regular basis, records are maintained and submitted to JSPCB and MoEF&amp;CC.</p> <p>We follow the latest guidelines/ code of practice issued by CPCB for secondary fugitive emission monitoring. Gaseous Emission levels including secondary fugitive emissions are controlled within the permissible limits.</p>

**Compliance Status of Environmental Clearance of Cold Rolling Mill Complex (CRMC) to produce Cold Rolled Coils (2,50,000 TPA) and Hot Rolled Pickled Coils (50,000 TPA) at Bara, Jamshedpur, District East Shinghbhum, Jharkhand vide MoEF Letter no J-11011/199/2007-IA.II (I) dated August 7, 2007**

vii.	Industrial waste water shall be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19 <sup>th</sup> May, 1993 and 31 <sup>st</sup> December, 1993 or as amended from time to time. The treated waste water shall be utilized for plantation purpose.	Effluent treatment plants have been installed for the generated oily and acidic waste water. The treated water is used for plantation/dust suppression and other low end uses.
viii.	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.	Two numbers of Rain water harvesting structures have been made having total capacity of 25 KL. 10 KL Water has been used for toilet flushing and greenery development during July 2019 to Oct 2019 Monsoon Season. New water body is also developed which will cater rain water harvesting at Bara complex.
ix.	The overall noise levels 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 levels should conform to the standards prescribed under EPA Rules, 1989 viz. 75 dBA (daytime) and 70 dBA (night time).	High noise generating equipment has been provided with acoustic enclosures and silencer. Noise level is being monitored regularly in near Pickling Line Exit, Near Mills Stand, Near Mills Stand Outside, Near Compressor Room, near Boiler House, near ARP Pump Room, Near Main office etc. Monitoring report for period April 2019 to March 2020 is enclosed in <b>Annexure-I</b>
x	Recommendations made in the Corporate Responsibility for Environment Conservation (CREP) issued for the steel plant shall be implemented.	No specific recommendation is there under CREP for Cold rolling mills.
xi.	Occupational Health Surveillance of the workers shall be done on the regular basis and records maintained as per the Factories Act.	Occupational health surveillance has been conducted for 190 Workers of the plant and 320 contract workers as per factory act, during the period April 2019 to March 2020.
xii.	The project proponent shall also comply with all the environmental protection measures and safeguards recommended in the EIA / EMP report.	Environment protection measures are being implemented according to measures and safeguard recommended in the EIA/ EMP report.
xiii.	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.	Community development programs in surrounding areas are being implemented by TSRDS/ Urban Services of Tata Steel. Major activities include education, health & sanitation, drinking water supply, sports and cultural promotion is being carried out. Health care program for Bagunhatu and Babudih, Gwala Basti conducted. Drinking Water facility has been provided at Bagunhatu.

**Compliance Status of Environmental Clearance of Cold Rolling Mill Complex (CRMC) to produce Cold Rolled Coils (2,50,000 TPA) and Hot Rolled Pickled Coils (50,000 TPA) at Bara, Jamshedpur, District East Shinghbhum, Jharkhand vide MoEF Letter no J-11011/199/2007-IA.II (I) dated August 7, 2007**

xiv.	The Regional Office at Bhubaneswar / CPCB / 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.	<p>The six-monthly compliance reports of all existing environment clearances granted by Ministry are being submitted to JSPCB's regional office, Ministry's Regional office, Zonal office CPCB Kolkata and JSPCB Ranchi regularly and being submitted online through the respective website.</p> <p>The six-monthly compliance reports along the monitored data is also uploaded in the website  <a href="https://www.tatasteel.com/sustainability-old/environment-compliance-reports/">https://www.tatasteel.com/sustainability-old/environment-compliance-reports/</a>  The criteria pollutant levels namely; PM<sub>10</sub>, SO<sub>2</sub>, NO<sub>x</sub> (ambient levels as well as stack emission) or critical sectoral parameters, indicated for the projects is being monitored and displayed at a convenient location near the main gate of the company in the public domain.</p>
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 / Committee and may also be seen at website of the Ministry of Environment and Forests at <a href="http://envfor.nic.in">http://envfor.nic.in</a> . 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.	Environment clearance notice had been advertised in two local newspapers viz. Chamakta Aina (Hindi) and Avenue Mail (English) on August 11, 2007 and communication to this effect was also sent to MoEF&CC vide our letter no. EMD/C38/2119/07 dated August 18, 2007.
xvi.	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.	Plant construction activities had started during April 2008 and the project has been commissioned with commercial production started in May 2011.



# **ENVIRONMENTAL CLEARANCE COMPLIANCE STATUS REPORT**

**October 2019 to March 2020**

**CRM Bara, Tata Steel Limited, Jamshedpur**

**Six Monthly Compliance Status report of Environmental  
Clearance of Cold Rolling Mill Complex (CRMC) Capacity  
Expansion (0.3 MTPA to 0.8 MTPA)**

**ENVIRONMENTAL MANAGEMENT DEPARTMENT  
TATA STEEL LIMITED  
JAMSHEDPUR**

**Compliance Status of Environmental Clearance of Cold Rolling Mill Complex (CRMC) Capacity Expansion (0.3 MTPA to 0.8 MTPA) (Ph-II) Jamshedpur, District East Singhbhum, Jharkhand vide MoEF&CC Letter no F.NO J-11011/22/2013-IA (II) I Dated on 15th Sept 2015**

SN	Compliance Conditions	Compliance Status
	<b>Specific Conditions:</b>	
i	The PP shall prepare a WL Conservation Plan in and around the project site drawn up in consultation with the PCCF (WL), Government of Jharkhand. Separate Funds shall be earmarked for the various activities identified and details of the expenditure made thereon shall be submitted as part of the Compliance Report to RO, Ranchi.	Wild life conservation survey & plan has been made. Report submitted to PCCF (WL) Government of Jharkhand vide letter no. C-41/ EMD/C-41/128/16 dated August 22, 2016 and approved dated 13 <sup>th</sup> Nov 2017.
ii	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), and bag filters etc., shall be provided to keep the emission levels below 50 mg/Nm <sup>3</sup> by installing energy efficient technology.	<p>Ambient air quality monitoring stations has been identified at four locations in the plant premises.</p> <ol style="list-style-type: none"> <li>1. Near Mill dispatch shutter</li> <li>2. Near Pickling dispatch shutter</li> <li>3. Near Roll Shop shutter</li> <li>4. Near HR Receiving Shutter</li> </ol> <p>One Online ambient air quality monitoring has been provided inside CRM Complex Bara and Continuous stack monitoring facilities has been provided in boiler stack and SB Machine. Server connectivity with CPCB/JSCPB is in under progress.</p> <p>Fume extraction system including scrubber, fume extraction ductwork and fan has been installed in pickling line. Ventilation system has also been installed. Water sprinkling and mechanized sweeping machine frequency has been increased to control duct emission. Monitoring data is attached as Annexure-I.</p>
iii	In-plant control measures like bag filters, de-dusting and dust suppression system shall be provided to control fugitive emissions from all the vulnerable sources. Water sprinkling system shall be provided to control secondary fugitive dust emissions generated during screening, loading, unloading, handling and storage of raw materials etc.	Fume extraction system including scrubber, Fume extraction ductwork and fan has been installed in Pickling line. Ventilation system has also been installed. Suitable means is provided depending upon secondary fugitive emission such as mechanized road cleaning, water sprinkling, etc.
iv	Gaseous emission levels including secondary fugitive emissions from all the sources shall be controlled within the latest permissible limits issued by the Ministry vide G.S.R. 414(E) dated 30 <sup>th</sup> May, 2008 and regularly monitored. Guidelines/Code of Practice issued by the CPCB shall be followed.	<p>Gaseous emission levels including fugitive emission monitoring is being carried out on regular basis, records are maintained and submitted to JSPCB and MoEF&amp;CC.</p> <p>Data for the period April 2019 to March 2020 of fugitive emission attached in <b>Annexure-I</b>. We follow the latest guidelines/ code of practice issued by CPCB for secondary fugitive emission monitoring.</p>

**Compliance Status of Environmental Clearance of Cold Rolling Mill Complex (CRMC) Capacity Expansion (0.3 MTPA to 0.8 MTPA) (Ph-II) Jamshedpur, District East Singhbhum, Jharkhand vide MoEF&CC Letter no F.NO J-11011/22/2013-IA (II) I Dated on 15th Sept 2015**

v	The water consumption shall not exceed as per the standard prescribed for the sponge iron plants and steel plants.	Water consumption monitored regularly & it is within the prescribed permission given in the EC. At present, average usage of water is 1302 m <sup>3</sup> /day (Industrial 1096 m <sup>3</sup> /day and domestic 206 m <sup>3</sup> /day) for the period April 2019 to March 2020.
vi	Efforts shall further be made to use maximum water from the rain water harvesting sources. 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. 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.	Two numbers of Rain water harvesting structures have been made having total capacity of 25 KL. 10 KL Water has been used for toilet flushing and greenery development during July 2019 to Oct 2019. New water body is also developed which will cater rain water harvesting at Bara complex. Closed circuit cooling system is deployed to reduce water consumption.
vii	All the effluents shall be treated and used for dust suppression and green belt development. No effluent shall be discharged and 'zero' discharge shall be adopted. Domestic wastewater will be treated in the Sewage Treatment Plant.	Effluent treatment plants for the treatment of oily and acidic waste have been installed. The treated water is being used for plantation/dust suppression and other low end uses.  STP has been installed for the treatment of domestic waste having capacity of 25 KLD.
viii	Regular monitoring of influent and effluent surface, sub-surface and ground water shall be ensured and treated wastewater shall be 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 Ranchi, SPCB and CPCB.	Effluent treatment plants have been installed. The treated water is used for plantation/dust suppression and other low end uses.  The monthly monitoring data is being submitted to JSPCB and six-monthly reports are being submitted to regional office of MoEF&CC at Ranchi and CPCB. Please find enclosed the analysis reports in <b>Annexure-I</b> .
ix	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 Ranchi, SPCB and CPCB.	Solid wastes such as iron oxide generated in the CRM Bara have been sold to paint industry and other recyclers. Besides this, generated oily scum and sludge is being recycled by Authorized recyclers.  Details of solid waste and manifest of hazardous waste is being submitted to statutory bodies.
x	A time bound action plan shall be submitted to reduce solid waste, its proper utilization and disposal.	3047.16 Ton of Iron Oxide generated from April 2019 to March 2020 and sold to authorized vendors. Oily sludge (oily Scum) about 677.6 Tons during April 2019 to March 2020 is being recycled by authorized recyclers and WWTP sludge about 388.3 Tons has been disposed by Adityapur Waste Management Pvt Ltd.

**Compliance Status of Environmental Clearance of Cold Rolling Mill Complex (CRMC) Capacity Expansion (0.3 MTPA to 0.8 MTPA) (Ph-II) Jamshedpur, District East Singhbhum, Jharkhand vide MoEF&CC Letter no F.NO J-11011/22/2013-IA (II) I Dated on 15th Sept 2015**

xi	Proper utilization of fly ash shall be ensured as per Fly Ash Notification, 1999 and subsequent amendment in 2003 and 2009. All the fly ash shall be provided to cement and brick manufactures for further utilization and Memorandum of Understanding shall be submitted to the Ministry's Regional Office at Ranchi.	Not Applicable.												
xii	Risk and Disaster Management Plan along with the mitigation measures shall be prepared and a copy submitted to the Ministry's Regional Office at Ranchi, SPCB and CPCB within 3 months of issue of environment clearance letter.	Onsite emergency plan has been made and regular mock drills are being carried out as per plan. This will be further studied and improved over a period of time.												
xiii	A time bound action plan shall be submitted to reduce solid waste, its proper utilization and disposal.	Solid waste is handled as per solid waste management plan. For example, Iron oxide is being sold to paint manufacturing; generated scrap is reused in Tata Steel Main Works.												
xiv	As proposed, green belt shall be developed in 33% of plant area. Selection of plant species shall be as per the CPCB guidelines in consultation with the DFO.	We have planted 1020 nos. of saplings during April 2019 to March 2020 inside plant, in the periphery and other available spaces. So far 2.45 ha area has been planted with 5828 Nos of saplings (Trees and Shrubs) such as <i>Neem</i> , <i>Karanj</i> , <i>Tectona grandis</i> , <i>Dalbergia sissoo</i> , <i>Alistonia Scholaris</i> , <i>Lagestromia Flosregia</i> , <i>Silver Oak</i> , <i>Juniperous Chinensis</i> , <i>Ficus Benjamina</i> , <i>Jacaranda Mimosifolia</i> , <i>Azadirachta indica</i> , <i>Terminalia arjuna</i> , <i>Bauhinia variegata</i> , <i>Terminalia tomentosa</i> , etc.												
xv	All the recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the Steel Plants shall be implemented.	No specific recommendation is there under CREP for Cold rolling mills.												
xvi	At least 5% of the total cost of the expansion project shall be earmarked towards the Enterprise Social Commitment (ESC) based on locals need and item-wise details along with time bound action plan shall be prepared and submitted to the Ministry's Regional Office at Ranchi.	Action plan prepared in align with EIA report for 0.8 MTPA and progress report will be submitted accordingly on regular basis. <table border="1" data-bbox="922 1608 1375 1839"> <thead> <tr> <th>FY</th> <th>ESC spent in lacs.</th> </tr> </thead> <tbody> <tr> <td>2017</td> <td>5.2</td> </tr> <tr> <td>2018</td> <td>0.25</td> </tr> <tr> <td>2019</td> <td>0.50</td> </tr> <tr> <td>2020</td> <td>65</td> </tr> <tr> <td><b>Total</b></td> <td><b>70.95</b></td> </tr> </tbody> </table>	FY	ESC spent in lacs.	2017	5.2	2018	0.25	2019	0.50	2020	65	<b>Total</b>	<b>70.95</b>
FY	ESC spent in lacs.													
2017	5.2													
2018	0.25													
2019	0.50													
2020	65													
<b>Total</b>	<b>70.95</b>													

**Compliance Status of Environmental Clearance of Cold Rolling Mill Complex (CRMC) Capacity Expansion (0.3 MTPA to 0.8 MTPA) (Ph-II) Jamshedpur, District East Singhbhum, Jharkhand vide MoEF&CC Letter no F.NO J-11011/22/2013-IA (II) I Dated on 15th Sept 2015**

xvii	Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, Safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.	No person stays at the site. All facilities like food, medical health care, toilets, safe drinking water, etc. has been provided. All other facilities are being provided as and when required.
<b>General Conditions:</b>		
i	The project authorities must strictly adhere to the stipulations made by the Jharkhand Pollution Control Board and the State Government.	CRM Bara complex project is being strictly adhering to the stipulations made by the JSPCB and State Government.
ii	No further expansion or modifications in the plant shall be carried out without prior approval of the MoEF&CC.	No further expansion or modifications in the plant is being carried out without prior approval.
iii	At least four ambient air quality monitoring stations should be established in the downward directions well as where maximum ground level concentration of PM <sub>10</sub> , PM <sub>2.5</sub> , SO <sub>2</sub> and NO <sub>x</sub> 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 Ranchi and the SPCB/CPCB once in six months.	<p>Ambient air quality monitoring stations has been identified at four locations in the plant premises.</p> <ol style="list-style-type: none"> <li>1. Near Mill dispatch shutter</li> <li>2. Near Pickling dispatch shutter</li> <li>3. Near Roll Shop shutter</li> <li>4. Near HR Receiving Shutter</li> </ol> <p>One Online ambient air quality monitoring has been provided inside CRM Complex Bara and Continuous stack monitoring facilities has been provided in boiler stack and SB Machine. Server connectivity with CPCB/JSCPB is in under progress.</p> <p>Fume extraction system including scrubber, fume extraction ductwork and fan has been installed in pickling line. Ventilation system has also been installed. Water sprinkling and mechanized sweeping machine frequency has been increased to control duct emission. Monitoring data is attached as <b>Annexure-I</b>.</p>
iv	Industrial Wastewater shall be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19 <sup>th</sup> May, 1993 and 31 <sup>st</sup> December, 1993 or as amended form time to time. The treated wastewater shall be utilized for plantation purpose.	Effluent treatment plants have been installed for the generated oily and acidic waste water. The treated water is used for plantation/dust suppression and other low end uses.



**Compliance Status of Environmental Clearance of Cold Rolling Mill Complex (CRMC) Capacity Expansion (0.3 MTPA to 0.8 MTPA) (Ph-II) Jamshedpur, District East Singhbhum, Jharkhand vide MoEF&CC Letter no F.NO J-11011/22/2013-IA (II) I Dated on 15th Sept 2015**

v	The overall noise levels 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 levels should conform to the standards prescribed under EPA Rules, 1989 viz. 75 dBA (daytime) and 70 dBA (night-time).	High noise generating equipment has been provided with acoustic enclosures and silencer. Noise level is being monitored regularly in near Pickling Line Exit, Near Mills Stand, Near Mills Stand Outside, Near Compressor Room, near Boiler House, near ARP Pump Room, Near Main office etc. Monitoring report for period April 2019 to March 2020 is enclosed in <b>Annexure-I</b> .
vi	Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.	Occupational health surveillance has been conducted for 190 Workers of the plant and 320 contract workers as per factory act, during the period April 2019 to March 2020.
vii	The company shall develop rain water harvesting structures to harvest the rain water for utilization in the lean season besides recharging the ground water table.	Two numbers of Rain water harvesting structures have been made having total capacity of 25 KL. 10 KL Water has been used for toilet flushing and greenery development during July 2019 to Oct 2019 Monsoon Season. New water body is also developed which will cater rain water harvesting at Bara complex.
viii	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.	Environment protection measures are being implemented according to measures and safeguard recommended in the EIA/ EMP report. Community development programs in surrounding areas are being implemented by TSRDS/ Urban Services of Tata Steel. Major activities include education, health & sanitation, drinking water supply, sports and cultural promotion is being carried out. Health care program for Bagunhatu and Babudih, Gwala Basti conducted. Drinking Water facility has been provided at Bagunhatu.
ix	Requisite funds shall be earmarked towards capital cost and recurring cost/ annum for environment pollution control measures to implement the conditions stipulated by the MoEF&CC 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 at Ranchi. The funds so provided shall not be diverted for any other purpose.	A total amount of Rs 38.24 Crores has been Spent on environmental and pollution control measures which include capital cost and recurring cost for Utilities, Fume Extraction scrubbers, Boiler, Acid Regeneration Plant and Effluent Treatment Plant etc till date.  In FY20 total expenditure for environment protection is 6.86 Crore. The funds for capital investment on pollution control equipment are not diverted.
x	A copy of clearance letter shall be sent by the proponent to concerned Panchnyat, Zila Parishad /Municipal Corporation, Urban Local Body and the local NGO, if any, from whom suggestions / representations, if any, were received while processing the proposal. The clearance letter shall also be put on the web site of the company the proponent.	The copy of Clearance letter has been sent to District Commissioner, Block Development Officer and Jamshedpur Notified Area Committee vide our letter no. EMD/C-38/135,137,138/15 dated September 16, 2015.

**Compliance Status of Environmental Clearance of Cold Rolling Mill Complex (CRMC) Capacity Expansion (0.3 MTPA to 0.8 MTPA) (Ph-II) Jamshedpur, District East Singhbhum, Jharkhand vide MoEF&CC Letter no F.NO J-11011/22/2013-IA (II) I Dated on 15th Sept 2015**

xi	<p>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&amp;CC at Ranchi. The respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels namely; PM<sub>10</sub>, SO<sub>2</sub>, NO<sub>x</sub> (ambient levels as well as stack emission) 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.</p>	<p>The six-monthly compliance reports of all existing environment clearances granted by Ministry are being submitted to JSPCB's regional office, Ministry's Regional office, Zonal office CPCB Kolkata and JSPCB Ranchi regularly and being submitted online through the respective website.</p> <p>The six-monthly compliance reports along the monitored data is also uploaded in the website (<a href="https://www.tatasteel.com/sustainability-old/environment-compliance-reports/">https://www.tatasteel.com/sustainability-old/environment-compliance-reports/</a>)</p> <p>The criteria pollutant levels namely; PM<sub>10</sub>, SO<sub>2</sub>, NO<sub>x</sub> (ambient levels as well as stack emission) or critical sectoral parameters, indicated for the projects is being monitored and displayed at a convenient location near the main gate of the company in the public domain.</p>
xii	<p>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-main) to the Regional Office of MoEF&amp;CC, the respective Zonal Office of CPCB and the SPCB. The Regional Office of the Ministry at Ranchi / CPCB shall monitor the stipulated conditions.</p>	<p>Six-monthly compliance reports of all existing environment clearances granted by Ministry are being submitted to JSPCB's regional office, Ministry's Regional office, Zonal office CPCB Kolkata and JSPCB Ranchi regularly and being submitted online through the respective website (e-main).</p>
xiii	<p>The environmental statement for each financial year ending 31<sup>st</sup> March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of environmental conditions and shall also be sent to the respective Regional office of the MoEF&amp;CC at Ranchi by e-mail.</p>	<p>The environmental statement for each financial year in Form-V is regularly being submitted to the Jharkhand State Pollution Control Board. Environment Statement for FY 19 submitted on dated Sep 20<sup>th</sup>, 2019 vide letter reference EMD/C-23/210/19 dated September 20, 2019</p> <p>The environmental statement has also been uploaded on the company's website: (<a href="https://www.tatasteel.com/sustainability-old/environment-compliance-reports/">https://www.tatasteel.com/sustainability-old/environment-compliance-reports/</a>)</p>
xiv	<p>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 MoEF&amp;CC at <a href="http://envor.nic.in">http://envor.nic.in</a>. 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 should be forwarded to the Regional Office at Ranchi.</p>	<p>Environment clearance information/notice had been advertised in two local news paper on dated 20<sup>th</sup> Sept 2015 in English paper and Hind Paper viz The Telegraph and Prabhat Khabar.</p> <p>A copy of which has also been sent to the Regional Office at Ranchi vide our letter no. EMD/C38/136/15 dated September 16th , 2007.</p>
xv	<p>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.</p>	<p>We will submit the date of financial closure and final approval of the project by the concerned authorities and the date of commencing the land development work.</p>

**Compliance Status of Environmental Clearance of Cold Rolling Mill Complex (CRMC) Capacity Expansion (0.3 MTPA to 0.8 MTPA) (Ph-II) Jamshedpur, District East Singhbhum, Jharkhand vide MoEF&CC Letter no F.NO J-11011/22/2013-IA (II) I Dated on 15th Sept 2015**

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xvi	The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.	The above stated conditions have been noted & will be complied.
xvii	The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.	The above stated conditions have been noted & will be complied. The progress report of above conditions will be submitted on regular basis.
xviii	The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous Waste (Management, Handling and Transboundary Movement) Rules, 2008 and the Public (Insurance) Liability Act, 1991 along with their amendments and rules.	The stated stipulated conditions shall be implemented.

# **MONITORING & ANALYSIS REPORT**

**October 2019 to March 2020**

**CRM Bara, Tata Steel Limited, Jamshedpur**

**ENVIRONMENTAL MANAGEMENT DEPARTMENT  
TATA STEEL LIMITED  
JAMSHEDPUR**

**Annexure-I**

**AMBIENT AIR QUALITY REPORT FOR CRM BARA FROM APRIL 2019 to MARCH 2020**

Sl. No.	Parameter	UoM	Standard	NEAR DISPATCH SHUTTER *			NEAR FIRE FIGHTING STATION*			NEAR PICKLING DISPATCH*			NEAR ROLL SHUTTER *		
				Apr-19	May-19	Jun-19	Apr-19	May-19	Jun-19	Apr-19	May-19	Jun-19	Apr-19	May-19	Jun-19
1	Particulate Matter (PM10)	µg/m <sup>3</sup>	100	108.7	150.1	106.7	95.4	101.0	102.7	156.0	121.3	120.6	128.8	114.2	133.9
2	Particulate Matter (PM2.5)	µg/m <sup>3</sup>	60	58.6	64.6	61.6	53.8	55.2	55.4	62.2	60.8	61.2	61.2	60.2	60.6
3	Sulphur Dioxide (SO2)	µg/m <sup>3</sup>	80	8.7	12.8	12.6	11.0	10.8	10.9	11.0	12.2	13.5	12.1	12.0	9.2
4	Nitrogen Dioxide (NOx)	µg/m <sup>3</sup>	80	12.2	17.7	19.6	16.3	15.3	16.9	13.6	18.7	19.0	16.8	16.9	13.5
5	Carbon Monoxide (CO)	mg/m <sup>3</sup>	2	0.5	0.6	0.4	0.5	0.5	0.5	0.5	0.5	0.6	0.5	0.5	0.5
6	Ammonia (NH3)	µg/m <sup>3</sup>	400	52.0	51.3	34.9	46.0	33.5	32.7	56.7	40.2	39.3	44.0	34.3	40.4
7	Ozone (O3)	µg/m <sup>3</sup>	180	19.0	20.0	20.5	25.6	23.0	18.8	23.0	21.0	22.5	31.0	22.0	22.0
8	Nickel (Ni)	µg/m <sup>3</sup>	1	0.2	0.2	0.3	0.3	0.2	0.2	0.3	0.3	0.3	0.3	0.2	0.3
9	Arsenic (As)	ng/m <sup>3</sup>	6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	Lead (Pb)	ng/m <sup>3</sup>	20	0.2	0.3	0.4	0.3	0.3	0.2	0.2	0.2	0.2	0.3	0.3	0.2
11	Benzene (C6H6)	µg/m <sup>3</sup>	5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
12	Benzo alpha Pyrene (BaP)	ng/m <sup>3</sup>	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1



Sl. No.	Parameter	UoM	Standard	NEAR DISPATCH SHUTTER *			NEAR FIRE FIGHTING STATION*			NEAR PICKLING DISPATCH*			NEAR ROLL SHUTTER *		
				Jul-19	Aug-19	Sep-19	Jul-19	Aug-19	Sep-19	Jul-19	Aug-19	Sep-19	Jul-19	Aug-19	Sep-19
1	Particulate Matter (PM10)	µg/m <sup>3</sup>	100	94.9	92.8	31.4	94.8	96.8	36.7	91.7	94.6	26.7	97.8	99.4	33.9
2	Particulate Matter (PM2.5)	µg/m <sup>3</sup>	60	55.7	51.6	20.3	53.8	50.4	15.6	47.9	49.6	17.8	57.7	52.7	14.7
3	Sulphur Dioxide (SO2)	µg/m <sup>3</sup>	80	11.1	12.4	6.0	12.4	14.6	6.4	13.0	14.8	<6.0	13.0	12.8	6.2
4	Nitrogen Dioxide (NOx)	µg/m <sup>3</sup>	80	15.4	17.6	22.7	16.6	21.2	25.1	17.2	19.6	18.6	17.3	21.7	23.0
5	Carbon Monoxide (CO)	mg/m <sup>3</sup>	2	0.6	0.4	0.5	0.5	0.3	0.7	0.4	0.4	0.3	0.5	0.5	0.5
6	Ammonia (NH3)	µg/m <sup>3</sup>	400	32.7	26.4	<10.0	32.6	22.4	<10.0	29.0	28.6	<10.0	36.2	27.2	<10.0
7	Ozone (O3)	µg/m <sup>3</sup>	180	23.7	19.2	<20.0	19.4	22.4	<20.0	16.2	18.6	<20.0	18.3	21.6	<20.0
8	Nickel (Ni)	µg/m <sup>3</sup>	1	0.3	6.8	<5.0	0.2	7.8	<5.0	0.2	8.4	<5.0	0.3	9.2	<5.0
9	Arsenic (As)	ng/m <sup>3</sup>	6	0.0	NT	<1.0	0.0	NT	<1.0	0.0	NT	<1.0	0.0	NT	<1.0
10	Lead (Pb)	ng/m <sup>3</sup>	20	0.2	0.2	0.0	0.2	0.1	0.0	0.2	0.1	0.0	0.2	0.1	<0.01
11	Benzene (C6H6)	µg/m <sup>3</sup>	5	<0.1	<0.1	<4.2	<0.1	<0.1	<4.2	<0.1	<0.1	<4.2	<0.1	<0.1	<4.2
12	Benzo alpha Pyrene (BaP)	ng/m <sup>3</sup>	1	<0.1	<0.1	<0.5	<0.1	<0.1	<0.5	<0.1	<0.1	<0.5	<0.1	<0.1	<0.5

Sl. No.	Parameter	UoM	Standard	NEAR DISPATCH SHUTTER *			NEAR FIRE FIGHTING STATION*			NEAR PICKLING DISPATCH*			NEAR ROLL SHUTTER *		
				Oct-19	Nov-19	Dec-19	Oct-19	Nov-19	Dec-19	Oct-19	Nov-19	Dec-19	Oct-19	Nov-19	Dec-19
1	Particulate Matter (PM10)	µg/m <sup>3</sup>	100	32.7	35.4	25.9	32.7	96.8	36.7	25.9	31.5	26.7	31.5	99.4	33.9
2	Particulate Matter (PM2.5)	µg/m <sup>3</sup>	60	22.5	16.7	18.2	22.5	50.4	15.6	18.2	15.3	17.8	15.3	52.7	14.7
3	Sulphur Dioxide (SO2)	µg/m <sup>3</sup>	80	6.3	6.9	7.2	6.3	14.6	6.4	7.2	7.9	<6.0	7.9	12.8	6.2
4	Nitrogen Dioxide (NOx)	µg/m <sup>3</sup>	80	24.1	26.7	20.9	24.1	21.2	25.1	20.9	21.5	18.6	21.5	21.7	23.0
5	Carbon Monoxide (CO)	mg/m <sup>3</sup>	2	0.5	0.6	0.4	0.5	0.3	0.7	0.4	0.5	0.3	0.5	0.5	0.5
6	Ammonia (NH3)	µg/m <sup>3</sup>	400	<10.0	<10.0	<10.0	<10.0	22.4	<10.0	<10.0	<10.0	<10.0	<10.0	27.2	<10.0
7	Ozone (O3)	µg/m <sup>3</sup>	180	<20.0	<20.0	<20.0	<20.0	22.4	<20.0	<20.0	<20.0	<20.0	<20.0	21.6	<20.0
8	Nickel (Ni)	µg/m <sup>3</sup>	1	<5.0	<5.0	<5.0	<5.0	7.8	<5.0	<5.0	<5.0	<5.0	<5.0	9.2	<5.0
9	Arsenic (As)	ng/m <sup>3</sup>	6	<1.0	<1.0	<1.0	<1.0	NT	<1.0	<1.0	<1.0	<1.0	<1.0	NT	<1.0
10	Lead (Pb)	ng/m <sup>3</sup>	20	0.1	0.1	0.1	0.1	0.1	0.0	0.1	<0.01	0.0	<0.01	0.1	<0.01
11	Benzene (C6H6)	µg/m <sup>3</sup>	5	< 0.1	< 0.1	< 0.1	< 0.1	<0.1	<4.2	< 0.1	< 0.1	<4.2	< 0.1	<0.1	<4.2
12	Benzo alpha Pyrene (BaP)	ng/m <sup>3</sup>	1	< 0.1	< 0.1	< 0.1	< 0.1	<0.1	<0.5	< 0.1	< 0.1	<0.5	< 0.1	<0.1	<0.5

Sl. No.	Parameter	UoM	Standard	NEAR DISPATCH SHUTTER *			NEAR FIRE FIGHTING STATION*			NEAR PICKLING DISPATCH*			NEAR ROLL SHUTTER *		
				Jan-20	Feb-20	Mar-20	Jan-20	Feb-20	Mar-20	Jan-20	Feb-20	Mar-20	Jan-20	Feb-20	Mar-20
1	Particulate Matter (PM10)	µg/m <sup>3</sup>	100	172.2	152.9	150.6	178.5	150.8	148.7	127.2	139.2	136.8	188.9	115.7	113.9
2	Particulate Matter (PM2.5)	µg/m <sup>3</sup>	60	96.8	95.2	92.9	98.9	90.8	88.7	66.4	81.3	78.9	101.8	71.5	69.7
3	Sulphur Dioxide (SO2)	µg/m <sup>3</sup>	80	16.2	23.1	20.8	17.7	24.9	22.8	14.7	24.2	21.8	20.9	21.9	20.1
4	Nitrogen Dioxide (NOx)	µg/m <sup>3</sup>	80	42.9	52.1	49.8	60.3	53.8	51.7	39.3	55.6	53.2	58.2	46.5	44.7
5	Carbon Monoxide (CO)	mg/m <sup>3</sup>	2	1.0	1.1	0.9	1.2	1.2	1.0	1.0	0.9	0.7	1.3	1.0	0.8
6	Ammonia (NH3)	µg/m <sup>3</sup>	400	24.2	23.8	21.5	26.3	19.4	17.3	26.4	21.4	19.0	21.6	22.8	21.0
7	Ozone (O3)	µg/m <sup>3</sup>	180	< 20.0	<20.0	<20.0	38.7	<20.0	<20.0	< 20.0	<20.0	<20.0	33.2	<20.0	<20.0
8	Nickel (Ni)	µg/m <sup>3</sup>	1	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	5.1	5.1	5.1	< 5.0	< 5.0	< 5.0
9	Arsenic (As)	ng/m <sup>3</sup>	6	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1.0	<1.0	<1.0	< 1.0	< 1.0	< 1.0
10	Lead (Pb)	ng/m <sup>3</sup>	20	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.0
11	Benzene (C6H6)	µg/m <sup>3</sup>	5	< 4.2	< 4.2	< 4.2	< 4.2	< 4.2	< 4.2	< 4.2	< 4.2	< 4.2	< 4.2	< 4.2	< 4.2
12	Benzo alpha Pyrene (BaP)	ng/m <sup>3</sup>	1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5

**Note**

Standards applicable as per National Ambient Air Quality Standards vide Notification No.: B-29016/20/90/PCI-L dated 18th November 2009.

\* This test report is generated by NABL Accredited Tata Steel Limited Jamshedpur EMD LAB which has been accredited with NABL accreditation no.TC-8363 dated 21.02.2019 having validity till 20.02.2021.

## CRM BARA EFFLUENT QUALITY REPORT FROM APRIL 2019 TO MARCH 2020

	Parameter	Unit	Statutory Limit	Apr' 19	May' 19	Jun' 19	Jul' 19	Aug' 19	Sep' 19	Oct' 19	Nov' 19	Dec' 19	Jan'20	Feb'20	Mar'20
Drain at Gate No-1	pH	-	6.0-8.5	7.62	7.78	7.96	7.78	6.47	7.7	7.6	8	8.1	6.6	7.3	7.8
	Total Suspended solids	mg/L	100.0	5.0	<10.0	5.0	10	23	< 10.0	12	22	< 10.0	65	10	8
	Oil & Grease	mg/L	10.0	2.80	<1.0	<1.0	1.8	5.6	2.4	2.4	1.2	2	2	0.6	2.0
	Hexavalent Chromium, Cr+6	mg/L	0.1	0.06	<0.05	<0.05	<0.05	<0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
	Biological Oxygen Demand, BOD	mg/L	30.0	3	<4.0	<4.0	<4.0	<4.0	< 4.0	5	< 4.0	4.8	< 4.0	< 4.0	7
	Chemical Oxygen Demand, COD	mg/L	250.0	52	7	19	33	47	< 10.0	42	20	45	35	17	50
Drain at Gate No-2	pH	-	6.0-8.5	7.50	7.09	7.29	8.39	8.42	7.4	7.3	7.3	8.3	8.3	7.7	8.1
	Total Suspended solids	mg/L	100.0	10.0	<10.0	75.0	26	93	96	92	80	65	34	27	5
	Oil & Grease	mg/L	10.0	2.00	<1.0	<1.0	2.2	6.8	2.8	2	< 1.0	4	2.4	1.6	1.6
	Hexavalent Chromium, Cr+6	mg/L	0.1	0.04	<0.05	<0.05	<0.05	<0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
	Biological Oxygen Demand, BOD	mg/L	30.0	6	<4.0	20	5	<4.0	8.1	9.8	6.5	4.9	4.9	< 4.0	8
	Chemical Oxygen Demand, COD	mg/L	250.0	59	37	171	41	31	73	142	44	52	43	34	55

**NOTE**

Standards applicable as per Environment (Protection) (Third Amendment) Rules, 2012 issued in Gazette of India Notification vide No.: G. S. R. 277 (E) dated March 31, 2012.

This test report is generated by NABL Accredited TATA STEEL LIMITED JSR EMD LAB having accreditation No.TC-8363 dated 21.02.2019 having validity till 20.02.2021.

**AMBIENT NOISE LEVEL MONITORING REPORT FOR CRM BARA FROM APRIL 2019 to MARCH 2020**

Sl.No.	Sampling Location	April'19		May'19		June'19		July'19		Aug'19		Sep'19		
		Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	
		dB(A) Leq		dB(A) Leq		dB(A) Leq		dB(A) Leq		dB(A) Leq		dB(A) Leq		
1	Entrance Main Gate	Result	59.3	46.8	70.4	42.8	59.2	53.7	61.4	55.4	62.4	53.5	63.5	58.2
2	Circle Near Main Gate		56.0	45.8	63.4	48.2	62.1	53.4	63.4	56.7	65.2	52.4	64.8	51.5
3	Circle Near Gate No-1		55.7	44.3	66.2	46.4	59.7	55.4	72.4	56.8	70.4	58.7	71.2	56.2
4	Gate No-1		57.3	47.4	67.6	45.1	61.4	54.8	62.1	52.8	67.2	56.1	68.9	55.4
5	Gate No-2		63.9	53.6	71.8	47.5	57.2	53.8	59.8	54.2	66.2	53.4	63.4	50.8

Sl.No.	Sampling Location	Oct'19		Nov'19		Dec'19		Jan'20		Feb'20		Mar'20		
		Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	
		dB(A) Leq		dB(A) Leq		dB(A) Leq		dB(A) Leq		dB(A) Leq		dB(A) Leq		
1	Entrance Main Gate	Result	62.8	55.7	63.4	59.7	64.8	58.5	62.3	59.2	55.3	59.2	68.1	54.6
2	Circle Near Main Gate		63.7	53.2	66.8	54.6	63.7	56.7	61.9	57.3	52.2	57.3	63.5	52.7
3	Circle Near Gate No-1		69.5	57.1	64.2	55.7	61.6	53.9	60.6	55.4	58.6	55.4	69.4	50.8
4	Gate No-1		70.1	58.2	69.8	59.2	72.2	57.3	66.1	58.2	59.3	58.2	68.2	53.6
5	Gate No-2		61.7	55.8	65.7	57.2	62.5	54.8	61.5	50.1	54.6	50.1	58.1	45.5

**NOTE**

Standards applicable as per Noise Pollution (Regulation and Control) (Amendment) Rules, 2000 notified vide S. O. 1046 (E), dated 22-11-2000

This test report is generated by NABL Accredited TATA STEEL LIMITED JSR EMD LAB having accreditation No.TC-8363 dated 21-02-2019 having validity till 20-02-2021.



## Stack Emission Monitoring Report From April'19 To March'20

		<b>UoM</b>	<b>Standard</b>	<b>Parameter</b>	<b>Result</b>
<b>Acid Regeneration Plant</b>	<b>April'19</b>	mg/Nm <sup>3</sup>	150	PM	79.3
	<b>May'19</b>	mg/Nm <sup>3</sup>	150	PM	112.3
	<b>June'19</b>	mg/Nm <sup>3</sup>	150	PM	137
	<b>July'19</b>	mg/Nm <sup>3</sup>	150	PM	132.6
	<b>Aug'19</b>	mg/Nm <sup>3</sup>	150	PM	30
	<b>Sep'19</b>	mg/Nm <sup>3</sup>	150	PM	95
	<b>Oct'19</b>	mg/Nm <sup>3</sup>	150	PM	105
	<b>Nov'19</b>	mg/Nm <sup>3</sup>	150	PM	80.99
	<b>Dec'19</b>	mg/Nm <sup>3</sup>	150	PM	76.36
	<b>Jan'20</b>	mg/Nm <sup>3</sup>	150	PM	82.26
	<b>Feb'20</b>	mg/Nm <sup>3</sup>	150	PM	85.2
	<b>Mar'20</b>	mg/Nm <sup>3</sup>	150	PM	87.6

**Note:**

Standards applicable as per CTO, Ref No. JSPCB/HO/RNC/CTO-1031289/2016/1092 dated 31/12/2016.

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