



EMD/C-38/290/21

November 28, 2021

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 (April to September 2021) EC Compliance Status of Environmental Clearance of Cold Rolling Mill Complex (CRMC) to produce (0.3 MTPA and 0.8 MTPA) Jamshedpur, District East Singhbhum, Jharkhand

Reference:

1. MoEF&CC EC for 0.3 MTPA vide Letter no F.NO J-11011/199/2007-IA (II) dated August 07, 2007.
2. MoEF&CC EC for 0.8 MTPA vide Letter no F.NO J-11011/22/2013-IA (II) I dated September 15, Sept 2015

Dear Sir,

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 Environmental Clearance of Cold Rolling Mill Complex (CRMC) to produce (0.3 MTPA and 0.8 MTPA) at CRM Bara, Jamshedpur, District East Singhbhum, Jharkhand for the period from **April to September 2021** along with monitoring data report for your kind consideration.

TATA STEEL LIMITED

Environment Management Jamshedpur 831 001 India

Tel 91 657 6640415 8092094575 (M) e-mail anoop.srivastava@tatasteel.com

Registered Office Bombay House 24 Homi Mody Street Fort Mumbai 400 001

Tel 91 22 66658282 Fax 91 22 66657724

Corporate Identity Number L27100MH1907PLC000260 Website www.tatasteel.com



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

A handwritten signature in blue ink that reads 'Anoop Srivastava'.

Anoop Srivastava

Head, Environment Management

Encl:

1. Six-monthly compliance status report of 0.3 & 0.8 MTPA Environment Clearance
2. Monitoring and analysis reports for April 2021 to September 2021

Copy to:

1. Zonal Officer, Central Pollution Control Board, Southern Conclave, Block 502, 5th and 6th 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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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 Singhbhum, Jharkhand vide MoEF&CC Letter no J-11011/199/2007-IA.II (I) dated August 7, 2007

SN	Compliance Conditions	Compliance Status										
	Specific Conditions:											
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.	The following equipment are provided to control Air Pollution: <ol style="list-style-type: none"> 1. Fume extraction system including scrubber in pickling line. 2. Bag filter in shot blasting machine. 3. Roof-top ventilation system. 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. Pickling baths are covered with tight granite covers. There is no such LPG emission inside plant premises.										
ii	Total water requirement from M/s JUSCO is about 1712 m ³ /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.	Water consumption is metered and recorded regularly & the same is within prescribed limit for Steel Plants and as mentioned in EC. <table border="1" data-bbox="810 835 1469 916"> <thead> <tr> <th>Requirement</th> <th>Limit</th> <th>UoM</th> <th>FY'21 (Oct-Mar)</th> <th>FY'22 (Apr-Sep)</th> </tr> </thead> <tbody> <tr> <td>0.8 MTPA EC</td> <td>1723</td> <td>m³/day</td> <td>1507</td> <td>1581</td> </tr> </tbody> </table> Wastewater treatment plant for the treatment of oily and acidic waste have been installed and are in operation. The excess treated effluent is being stored at the pond inside Bara Complex. The treated water is being used for plantation/dust suppression and other low end uses. No groundwater is used. Domestic wastewater generated inside plant is being treated in STP having capacity of 25 m ³ /day.	Requirement	Limit	UoM	FY'21 (Oct-Mar)	FY'22 (Apr-Sep)	0.8 MTPA EC	1723	m ³ /day	1507	1581
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0.8 MTPA EC	1723	m ³ /day	1507	1581								
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.	Proper handling, storage, utilization, and disposal of all the solid waste generated are being ensured. <ul style="list-style-type: none"> • Iron oxide is sold to paint industry. • Oily scum and sludge are disposed by authorized agency (Adityapur waste management private limited). • Solid waste generated at CRM Bara is being 100% utilized through internal and external applications. 										
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.	Green belt at CRM Bara complex has been developed as per CPCB guidelines. <ul style="list-style-type: none"> • Approx. 3.5 Ha area in and around plant is under plantation which is more than 33% of the plant area. • We have planted 10850 no. of samplings in the above area till date. • We have developed approx. 5m wide area of plantation around the plant as per CPCB guidelines. Density of plantation > 3000 plants/Ha which is more than CPCB guidelines.										
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.										

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 Singhbhum, Jharkhand vide MoEF&CC Letter no J-11011/199/2007-IA.II (I) dated August 7, 2007

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.	<p>For environment protection, 19.8 Cr spent as capital cost. Details are as below:</p> <table border="1" data-bbox="810 369 1465 728"> <thead> <tr> <th>Details</th> <th>Capital Cost</th> </tr> </thead> <tbody> <tr> <td>Pollution control measures (WWTP, ARP, fume extraction systems, etc.)</td> <td>11.8</td> </tr> <tr> <td>Provision of online environment monitoring equipment and display</td> <td>1.06</td> </tr> <tr> <td>Rejuvenation of water bodies</td> <td>6.94</td> </tr> <tr> <td>Total capital cost</td> <td>19.8</td> </tr> </tbody> </table> <p>Recurring cost for upkeep the pollution control facilities till FY21 is 38.7 crores. In FY'22 (Apr-Sep) recurring expenditure for environment protection is 2.89 Crore.</p>	Details	Capital Cost	Pollution control measures (WWTP, ARP, fume extraction systems, etc.)	11.8	Provision of online environment monitoring equipment and display	1.06	Rejuvenation of water bodies	6.94	Total capital cost	19.8
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Total capital cost	19.8											
General Conditions:												
i.	The project authorities shall strictly adhere to the stipulations made by Jharkhand State Pollution Control Board (Jharkhand SPCB) and the State Government.	We are abiding by all the compliance conditions made by JSPCB and State Government of Jharkhand.										
ii.	No further expansion or modifications in the plant shall be carried out without prior approval of MoEF.	No further expansion or modifications beyond the existing capacity of 0.8 MTPA in the plant will be carried out without prior approval from MoEF&CC.										
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.	<p>Standards issued by the Ministry vide G.S.R. 414(E) dated 30th May 2008 is not applicable for CRM Complex, Bara.</p> <p>Interlocking facilities has been provided with pollution control equipment at acid regeneration plant, pickling line, reversing mill and Shot Blasting machine to stop the process.</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 Singhbhum, Jharkhand vide MoEF&CC 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 ₂ and NO _x 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 is being monitored for the following four locations in the plant premises.</p> <ol style="list-style-type: none"> 1. Near Mill dispatch shutter 2. Near Pickling dispatch shutter 3. Near Roll Shop shutter 4. Near HR Receiving Shutter <p>All parameters as per NAAQS, 2009 standards are being monitored and monitoring reports are being submitted to JSPCB on monthly basis and CPCB and MoEF&CC on six monthly basis.</p> <p>Monitoring reports for all relevant parameters from Apr 2021 to Sep 2021 are attached in Annexure-I.</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>The following equipment are provided to control Air Pollution:</p> <ol style="list-style-type: none"> 1. Fume extraction system including scrubber in pickling line. 2. Bag filter in shot blasting machine. 3. Roof-top ventilation system. 4. Water sprinkling and mechanized sweeping machine. <p>Hot Rolled Coils from Main Steel Works are used as raw material in the manufacturing process. As Ore and Minerals are not being handled inside plant premises, there is no generation of secondary fugitive dust emission.</p> <p>However, fugitive dust emission monitoring is being carried out on regular basis, records are maintained and submitted to JSPCB and MoEF&CC. Monitoring reports for all relevant parameters from Apr 2021 to Sep 2021 is attached in Annexure-I.</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>Hot Rolled Coils from Main Steel Works are used as raw material in the manufacturing process. As Ore and Minerals are not being handled inside plant premises, there is no generation of secondary fugitive dust emission. Therefore, Standards issued by the Ministry vide G.S.R. 414(E) dated 30th May 2008 are not applicable for CRM Complex, Bara.</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 Singhbhum, Jharkhand vide MoEF&CC 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 th May, 1993 and 31 st December, 1993 or as amended from time to time. The treated waste water shall be utilized for plantation purpose.	Effluent treatment plants for the treatment of oily and acidic waste have been installed and are in operation. The excess treated effluent is being stored at the pond inside Bara Complex. The treated water is being used for plantation/dust suppression and other low end uses. All applicable effluent parameters are being monitored and found within prescribed standards. Monitoring reports are being submitted to JSPCB on monthly basis and CPCB and MoEF&CC on six monthly basis.
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.	We have rejuvenated an abandoned ash pond inside CRM Bara Complex. The pond comprises of one large and three small ponds and serves the purpose of rainwater harvesting and in maintaining the biodiversity of the surrounding area. This has resulted in accumulating 82,320 m ³ rain water and improving the biodiversity in the area. More details are attached in Annexure-II .
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. However, closed cabins are provided for workers wherever required and people are encouraged to use ear plugs or ear muffs. Monitoring reports for noise from Apr 2021 to Sep 2021 are attached in Annexure-I
x.	Recommendations made in the Corporate Responsibility for Environment Conservation (CREP) issued for the steel plant shall be implemented.	No specific recommendations are 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.	Regular health surveillance of all the workers is being conducted half yearly and annually. Occupational health surveillance has been conducted for 189 permanent workers during Fy'21.
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.

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 Singhbhum, Jharkhand vide MoEF&CC Letter no J-11011/199/2007-IA.II (I) dated August 7, 2007

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.	<p>Community development programs in surrounding areas are being implemented.</p> <p>Year wise expenditure for implementation of enterprise social commitment for in and around Jamshedpur are given below (in crores):</p> <table border="1" data-bbox="810 483 1430 920"> <thead> <tr> <th>Interventions</th> <th>FY19</th> <th>FY20</th> <th>FY21</th> </tr> </thead> <tbody> <tr> <td>Health</td> <td>66.83</td> <td>1.49</td> <td>0.52</td> </tr> <tr> <td>Drinking Water</td> <td>0.07</td> <td>0.08</td> <td>0.01</td> </tr> <tr> <td>Education</td> <td>1.46</td> <td>1.84</td> <td>1.33</td> </tr> <tr> <td>Livelihood- Skill Development</td> <td>1.55</td> <td>1.56</td> <td>1.40</td> </tr> <tr> <td>Sports</td> <td>6.68</td> <td>4.7</td> <td>13.25</td> </tr> <tr> <td>Rural Infrastructure</td> <td>-</td> <td>0.02</td> <td>1.35</td> </tr> <tr> <td>Environment</td> <td>2</td> <td>2.72</td> <td>2.78</td> </tr> <tr> <td>Ethnicity</td> <td>4.54</td> <td>5.27</td> <td>1.67</td> </tr> <tr> <td>Total</td> <td>83.13</td> <td>17.68</td> <td>22.36</td> </tr> </tbody> </table>	Interventions	FY19	FY20	FY21	Health	66.83	1.49	0.52	Drinking Water	0.07	0.08	0.01	Education	1.46	1.84	1.33	Livelihood- Skill Development	1.55	1.56	1.40	Sports	6.68	4.7	13.25	Rural Infrastructure	-	0.02	1.35	Environment	2	2.72	2.78	Ethnicity	4.54	5.27	1.67	Total	83.13	17.68	22.36
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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 https://www.tatasteel.com/corporate/our-organisation/environment/environment-compliance-reports/</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 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.	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.	Financial closure and final approval of the project by Board of Tata Steel was done in March 2006.																																								

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
Specific Conditions:		
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.	The report of Wildlife conservation plan was submitted to PCCF (WL) Government of Jharkhand vide letter no. C-41/ EMD/C-41/128/16 dated August 22, 2016 and approved by PCCF (WL) Government of Jharkhand vide letter no. 1945 dated 13th Nov 2017. The same will be implemented as directed by Department of Forest, Jharkhand.
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 ³ by installing energy efficient technology.	<p>Online ambient air quality monitoring station has been provided inside CRM Complex Bara and Continuous stack monitoring facility has been provided in Boiler stack. Online real-time monitoring data is connected with JSPCB.</p> <p>The following equipment are provided to control Air Pollution:</p> <ol style="list-style-type: none"> 1. Fume extraction system including scrubber in pickling line. 2. Bag filter in shot blasting machine. 3. Roof-top ventilation system. 4. Water sprinkling and mechanized sweeping machine. <p>Monitoring reports for all relevant parameters from Apr 2020 to Sep 2021 is attached in 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.	<p>The following equipment are provided to control Air Pollution:</p> <ol style="list-style-type: none"> 1. Fume extraction system including scrubber in pickling line. 2. Bag filter in shot blasting machine. 3. Roof-top ventilation system. 4. Water sprinkling and mechanized sweeping machine. <p>Hot Rolled Coils from Main Steel Works are used as raw material in the manufacturing process. As Ore and Minerals are not being handled inside plant premises, there is no generation of secondary fugitive dust emission.</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

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 th May, 2008 and regularly monitored. Guidelines/Code of Practice issued by the CPCB shall be followed.	Standards issued by the Ministry vide G.S.R. 414(E) dated 30 th May, 2008 are not applicable for CRM Complex, Bara. However, fugitive dust emission monitoring is being carried out on regular basis, records are maintained and submitted to JSPCB and MoEF&CC. Monitoring reports for all relevant parameters from Apr 2021 to Sep 2021 is attached in Annexure-I .										
v	The water consumption shall not exceed as per the standard prescribed for the sponge iron plants and steel plants.	Water consumption is metered and recorded regularly & the same is within prescribed limit for Steel Plants and as mentioned in EC. <table border="1" data-bbox="772 759 1422 1003"> <thead> <tr> <th>Requirement</th> <th>Limit</th> <th>UoM</th> <th>FY'21 (Oct-Mar)</th> <th>Fy22 FY'21 (Apr-Sep)</th> </tr> </thead> <tbody> <tr> <td>0.8 MTPA EC</td> <td>1723</td> <td>m³/day</td> <td>1507</td> <td>1581</td> </tr> </tbody> </table>	Requirement	Limit	UoM	FY'21 (Oct-Mar)	Fy22 FY'21 (Apr-Sep)	0.8 MTPA EC	1723	m ³ /day	1507	1581
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0.8 MTPA EC	1723	m ³ /day	1507	1581								
vi	Efforts shall further be made to use maximum water from the rainwater 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.	We have rejuvenated an abandoned ash pond inside CRM Bara Complex. The pond comprises of one large and three small ponds. These ponds serve the purpose of rainwater harvesting and in maintaining the biodiversity of the surrounding area. This has resulted in accumulating 82,320 m ³ rainwater and improving the biodiversity in the area. More details are attached in Annexure-II .										
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 and are in operation. The excess treated effluent is being stored at the pond inside Bara Complex. The treated water is being used for plantation/dust suppression and other low end uses. Domestic wastewater generated inside plant is being treated in STP having capacity of 25 m ³ /day.										

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

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 for the treatment of oily and acidic waste have been installed and are in operation. The excess treated effluent is being stored at the pond inside Bara Complex. The treated water is being used for plantation/dust suppression and other low end uses. No groundwater is used. Ground water monitoring is conducted monthly and monitoring reports are being submitted regularly. Ground water monitoring report for Apr 2021 to Sep 2021 are attached in Annexure-I .
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.	Proper handling, storage, utilization, and disposal of all the solid waste generated is being ensured. Iron oxide is sold to paint industry and other recyclers; Oily scum and sludge is sold to authorized recyclers. Details of solid waste and manifest of hazardous waste is being regularly submitted to statutory authorities.
x	A time bound action plan shall be submitted to reduce solid waste, its proper utilization and disposal.	<ul style="list-style-type: none"> • Solid waste generated at CRM Bara is being 100% utilized through internal and external applications. • Action plan to reduce solid waste is attached as Annexure-III.
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.	This condition is not applicable as per our manufacturing process does not involve Coal burning and Ash generation.
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 & Disaster Management Plan has been prepared and approved by Chief Inspector of Factories; Jharkhand vide letter no. 7/Plan 10215/2016-467 dated March 14, 2018. The report has been submitted to JSPCB and MoEF&CC.
xiii	A time bound action plan shall be submitted to reduce solid waste, its proper utilization and disposal.	<ul style="list-style-type: none"> • Solid waste generated at CRM Bara is being 100% utilized through internal and external applications. • Action plan to reduce solid waste is attached as Annexure-III.

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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.	Green belt at CRM Bara complex has been developed as per CPCB guidelines. <ul style="list-style-type: none"> • Approx. 3.5 Ha area in and around plant is under plantation which is more than 33% of the plant area. • We have planted 10850 no. of samplings in the above area till date. • We have developed approx. 5m wide area of plantation around the plant as per CPCB guidelines. • Density of plantation > 3000 plants/Ha which is more than CPCB guidelines. 																																								
xv	All the recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the Steel Plants shall be implemented.	No specific recommendations are 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.	Year wise expenditure for implementation of enterprise social commitment for in and around Jamshedpur are given below (in crores): <table border="1" data-bbox="772 965 1390 1361"> <thead> <tr> <th>Interventions</th> <th>FY19</th> <th>FY20</th> <th>FY21</th> </tr> </thead> <tbody> <tr> <td>Health</td> <td>66.83</td> <td>1.49</td> <td>0.52</td> </tr> <tr> <td>Drinking Water</td> <td>0.07</td> <td>0.08</td> <td>0.01</td> </tr> <tr> <td>Education</td> <td>1.46</td> <td>1.84</td> <td>1.33</td> </tr> <tr> <td>Livelihood- Skill Development</td> <td>1.55</td> <td>1.56</td> <td>1.40</td> </tr> <tr> <td>Sports</td> <td>6.68</td> <td>4.7</td> <td>13.25</td> </tr> <tr> <td>Rural Infrastructure</td> <td>-</td> <td>0.02</td> <td>1.35</td> </tr> <tr> <td>Environment</td> <td>2</td> <td>2.72</td> <td>2.78</td> </tr> <tr> <td>Ethnicity</td> <td>4.54</td> <td>5.27</td> <td>1.67</td> </tr> <tr> <td>Total</td> <td>83.13</td> <td>17.68</td> <td>22.36</td> </tr> </tbody> </table>	Interventions	FY19	FY20	FY21	Health	66.83	1.49	0.52	Drinking Water	0.07	0.08	0.01	Education	1.46	1.84	1.33	Livelihood- Skill Development	1.55	1.56	1.40	Sports	6.68	4.7	13.25	Rural Infrastructure	-	0.02	1.35	Environment	2	2.72	2.78	Ethnicity	4.54	5.27	1.67	Total	83.13	17.68	22.36
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xvii	All the commitments made to the public during the public Hearing / Public Consultation meeting 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 Ranchi.	Public hearing commitment compliance implementation status is attached as Annexure-IV .																																								
xviii	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.	The construction work has been completed. All the necessary infrastructure and facilities such as food, medical health care, toilets, safe drinking water, etc. had been provided to construction labour during the project work.																																								

General Conditions:

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

i	The project authorities must strictly adhere to the stipulations made by the Jharkhand Pollution Control Board and the State Government.	We are abiding by all the compliance conditions made by JSPCB and State Government of Jharkhand.
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 beyond the existing capacity of 0.8 MTPA in the plant will be carried out without prior approval from MoEF&CC.
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 ₁₀ , PM _{2.5} , SO ₂ and NO _x 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 is being monitored for the following four locations in the plant premises.</p> <ol style="list-style-type: none"> 1. Near Mill dispatch shutter 2. Near Pickling dispatch shutter 3. Near Roll Shop shutter 4. Near HR Receiving Shutter <p>All parameters as per NAAQS, 2009 standards are being monitored and monitoring reports are being submitted to JSPCB on monthly basis and CPCB and MoEF&CC on six-monthly basis.</p> <p>Monitoring reports for all relevant parameters from April 2021 to Sep 2021 are attached in Annexure-I.</p>
iv	Industrial Wastewater shall be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19 th May, 1993 and 31 st December, 1993 or as amended form time to time. The treated wastewater shall be utilized for plantation purpose.	<p>Effluent treatment plants for the treatment of oily and acidic waste have been installed and are in operation. The excess treated effluent is being stored at the pond inside Bara Complex. The treated water is being used for dust suppression and other low end uses.</p> <p>All applicable effluent parameters are being monitored and found within prescribed standards. Monitoring reports are being submitted to JSPCB on monthly basis and CPCB and MoEF&CC on six -monthly basis.</p>
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).	<p>High noise generating equipment has been provided with acoustic enclosures and silencer. However, closed cabins are provided for workers wherever required and people are encouraged to use ear plugs or earmuffs.</p> <p>Monitoring reports for noise from Apr 2021 to Sep 2021 are attached in Annexure-I.</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

vi	Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.	Regular health surveillance of all the workers is being conducted half yearly and annually. Occupational health surveillance has been conducted for 189 permanent workers during Fy'21.																																								
vii	The company shall develop rainwater harvesting structures to harvest the rainwater for utilization in the lean season besides recharging the ground water table.	We have rejuvenated an abandoned ash pond inside CRM Bara Complex. The pond comprises of one large and three small ponds. These serve the purpose of rainwater harvesting and in maintaining the biodiversity of the surrounding area. This has resulted in accumulating 82,320 m ³ rainwater and improving the biodiversity in the area. More details are attached in Annexure-II .																																								
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.	<p>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.</p> <p>Year wise expenditure for implementation of enterprise social commitment for in and around Jamshedpur are given below (in crores):</p> <table border="1" data-bbox="772 1205 1390 1608"> <thead> <tr> <th>Interventions</th> <th>FY19</th> <th>FY20</th> <th>FY21</th> </tr> </thead> <tbody> <tr> <td>Health</td> <td>66.83</td> <td>1.49</td> <td>0.52</td> </tr> <tr> <td>Drinking Water</td> <td>0.07</td> <td>0.08</td> <td>0.01</td> </tr> <tr> <td>Education</td> <td>1.46</td> <td>1.84</td> <td>1.33</td> </tr> <tr> <td>Livelihood- Skill Development</td> <td>1.55</td> <td>1.56</td> <td>1.40</td> </tr> <tr> <td>Sports</td> <td>6.68</td> <td>4.7</td> <td>13.25</td> </tr> <tr> <td>Rural Infrastructure</td> <td>-</td> <td>0.02</td> <td>1.35</td> </tr> <tr> <td>Environment</td> <td>2</td> <td>2.72</td> <td>2.78</td> </tr> <tr> <td>Ethnicity</td> <td>4.54</td> <td>5.27</td> <td>1.67</td> </tr> <tr> <td>Total</td> <td>83.13</td> <td>17.68</td> <td>22.36</td> </tr> </tbody> </table>	Interventions	FY19	FY20	FY21	Health	66.83	1.49	0.52	Drinking Water	0.07	0.08	0.01	Education	1.46	1.84	1.33	Livelihood- Skill Development	1.55	1.56	1.40	Sports	6.68	4.7	13.25	Rural Infrastructure	-	0.02	1.35	Environment	2	2.72	2.78	Ethnicity	4.54	5.27	1.67	Total	83.13	17.68	22.36
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ix	<p>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.</p>	<p>For environment protection, 19.8 Cr spent as capital cost. Details are as below:</p> <table border="1" data-bbox="772 342 1426 703"> <thead> <tr> <th data-bbox="772 342 1219 416">Details</th> <th data-bbox="1224 342 1426 416">Capital Cost</th> </tr> </thead> <tbody> <tr> <td data-bbox="772 423 1219 517">Pollution control measures (WWTP, ARP, fume extraction systems, etc.</td> <td data-bbox="1224 423 1426 517">11.8</td> </tr> <tr> <td data-bbox="772 524 1219 618">Provision of online environment monitoring equipment and display</td> <td data-bbox="1224 524 1426 618">1.06</td> </tr> <tr> <td data-bbox="772 624 1219 660">Rejuvenation of water bodies</td> <td data-bbox="1224 624 1426 660">6.94</td> </tr> <tr> <td data-bbox="772 667 1219 703">Total capital cost</td> <td data-bbox="1224 667 1426 703">19.8</td> </tr> </tbody> </table> <p>Recurring cost for upkeep the pollution control facilities till FY21 is 38.7 crores. In FY'22 (Apr-Sep) recurring expenditure for environment protection is 2.89 Crore.</p>	Details	Capital Cost	Pollution control measures (WWTP, ARP, fume extraction systems, etc.	11.8	Provision of online environment monitoring equipment and display	1.06	Rejuvenation of water bodies	6.94	Total capital cost	19.8
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x	<p>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.</p>	<p>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.</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

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&CC at Ranchi. The respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels namely; PM₁₀, SO₂, NO_x (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 https://www.tatasteel.com/corporate/our-organisation/environment/environment-compliance-reports/</p> <p>Monitoring data is being displayed near the main gate of the company in the public domain. Ambient air quality was being displayed inside the premises. Shifting of AAQM and Stack monitoring data display board to the main gate is in progress.</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-mail) to the Regional Office of MoEF&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 along with environment monitoring reports are being submitted to JSPCB's regional office, Ministry's Regional office, Zonal office CPCB Kolkata and JSPCB Ranchi through email also the same is being uploaded on MoEF&CC website.</p>
xiii	<p>The environmental statement for each financial year ending 31st March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of environmental conditions and shall also be sent to the respective Regional office of the MoEF&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'20 has been submitted to JSPCB through hard and soft copies vide letter no. EMD/C-23/248/21 dated September 22, 2020.</p> <p>The environmental statement has also been uploaded on the company's website: https://www.tatasteel.com/sustainability-old/environment-compliance-reports/</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

xiv	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&CC at http://envor.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 should be forwarded to the Regional Office at Ranchi.	Environment clearance information/notice had been advertised in two local newspaper dated September 20, 2015 in English Paper and Hindi Paper viz The Telegraph and Prabhat Khabar. Copy of these have been sent to the Regional Office, MoEF&CC at Ranchi vide letter no. EMD/C38/136/15 dated September 16th, 2015.
xv	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.	Financial closure and final approval of the project by Board of Tata Steel was done in April 2013.
xvi	The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.	We are abiding for implementation of all the above compliance conditions. The progress report of above conditions will be submitted on regular basis.
xvii	The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.	We will be in accordance with implementation of necessary additional conditions stipulated by the Ministry for compliance (if any).

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

xviii	<p>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.</p>	<p>We are abiding by all the applicable legal requirements and Statutory clearances.</p> <ol style="list-style-type: none"> 1. Consent to Operate vide Ref No. JSPCB/HO/RNC/CTO-1031289/2016/1092; dated December 31, 2016; valid till December 31, 2021. 2. Hazardous and other wastes authorization vide ref no. JSPCB/HO/RNC/HWM-2107018/2018/37 dated May 05, 2018 valid till May 04, 2023. 3. Bio-Medical Waste Authorization for CRM Bara First Aid Centre, CRM Bara, Tata Steel vide Ref No. JSPCB/RO/JSR/BMW-7533472/2020/16 dated March 16, 2020. 4. Public Liability Insurance Policy for Tata Steel under the Public (Insurance) Liability Act, 1991 vide Policy No: 3133203998726200000 valid till 31 December 2021. <p>Copies of the above are enclosed in Annexure-V.</p>
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Annexure-I**CRM BARA EFFLUENT QUALITY REPORT FROM APRIL 2021 to SEPTEMBER 2021**

	Parameter	Unit	Statutory Limit	Apr/21	May/21	Jun/21	Jul/21	Aug/21	Sep/21
Drain at Gate No-1	pH	-	6.0-8.5	8.30	7.33	7.80	8.19	8.20	8.18
	Total Suspended solids	mg/L	100.0	<10	<10	<10	14	4	84
	Oil & Grease	mg/L	10.0	0.80	1.20	1.20	0.8	0.8	1.2
	Hexavalent Chromium, Cr+6	mg/L	0.1	<0.05	<0.05	< 0.05	<0.05	<0.05	<0.05
	Biological Oxygen Demand, BOD	mg/L	30.0	7	<4	< 4	1.6	6.3	9.7
	Chemical Oxygen Demand, COD	mg/L	250.0	51	24	24	17	60	97
Drain at Gate No-2	pH	-	6.0-8.5	7.00	7.51	7.60	8.28	7.85	7.95
	Total Suspended solids	mg/L	100.0	<10	<10	<10	12	23	19
	Oil & Grease	mg/L	10.0	1.80	1.60	1.60	0.8	0.4	1.6
	Hexavalent Chromium, Cr+6	mg/L	0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Biological Oxygen Demand, BOD	mg/L	30.0	9	26	<4	1.6	5.3	6.4
	Chemical Oxygen Demand, COD	mg/L	250.0	112	230	22	21	60	75

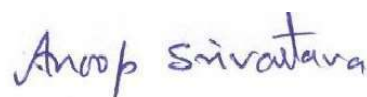
NOTE

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 20.02.2022



Sr. Manager
Monitoring and Analysis



Head
Monitoring, Testing and Analysis

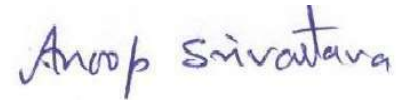
Annexure-I

AMBIENT AIR QUALITY REPORT FOR CRM BARA FROM APRIL 2021 to SEPTEMBER 2021

Sl. No.	Parameter	UoM	Standard	CAAQMS#1	CAAQMS#1	CAAQMS#1	CAAQMS#1	CAAQMS#1	CAAQMS#1
				Apr/21	May/21	Jun/21	Jul/21	Aug/21	Sep/21
1	Particulate Matter (PM10)	µg/m ³	100	166.6	67.0	67.6	47.6	56.1	38.3
2	Particulate Matter (PM2.5)	µg/m ³	60	57.2	30.7	32.3	23.2	24.4	16.5
3	Sulphur Dioxide (SO ₂)	µg/m ³	80	33.6	28.6	28.9	27.8	28.7	15.2
4	Nitrogen Dioxide (NO _x)	µg/m ³	80	20.8	10.7	8.8	7.3	7.5	27.7



Sr. Manager
Monitoring and Analysis



Head
Monitoring, Testing and Analysis

AMBIENT NOISE LEVEL MONITORING REPORT FOR CRM BARA FROM APRIL 2021 to SEPTEMBER 2021

Sl.No.	Sampling Location	Apr-21		May-21		Jun-21		Jul-21		Aug-21		Sep-21	
		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	72.6	ND	58.7	ND	71.3	ND	70.8	71.6	71.2	63.4	71.3	60.9
2	Circle Near Main Gate	64.1	ND	72.8	ND	68.2	ND	66.3	68.4	65.3	68.2	65.9	62.1
3	Circle Near Gate No-1	63.8	ND	64.4	ND	63.4	ND	65.1	65.1	53.8	65.9	62.8	66.2
4	Gate No-1	68.7	ND	63.4	ND	65.6	ND	60.9	68.9	60.1	66.4	65.1	65
5	Gate No-2	60.1	ND	68.7	ND	62.7	ND	61.3	62.5	71.4	62.3	67.2	60.4

NOTE

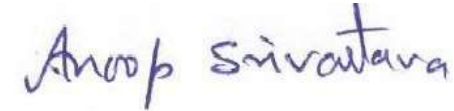
Standards applicable as per Noise Pollution (Regulation and Control) (Amendment) Rules, 2000 notified vide S. O. 1046 (E), dated 22-11-2000

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 20-02-2022.

Note: ND - Night monitoring not done due to Covid Lockdown



Sr. Manager
Monitoring and Analysis



Head
Monitoring, Testing and Analysis



Tata Steel Limited
Environmental Monitoring Report of CRM Bara
Manual Stack Emission Monitoring Report from Apr'21 to Sep'21



TC- 8363

Month	Location	UoM	Standard	Parameter	Result
Apr'21	Boiler	mg/Nm3	150	PM	9.00
	ARP	mg/Nm3	150	PM	63.87
	Mills	mg/Nm3	150	PM	8.69
May'21	Boiler	mg/Nm3	150	PM	8.50
	ARP	mg/Nm3	150	PM	68.43
	Mills	mg/Nm3	150	PM	9.00
Jun'21	Boiler	mg/Nm3	150	PM	8.40
	ARP	mg/Nm3	150	PM	65.00
	Mills	mg/Nm3	150	PM	10.00
Jul'21	Boiler	mg/Nm3	150	PM	7.45
	ARP	mg/Nm3	150	PM	97.70
	Mills	mg/Nm3	150	PM	20.71
Aug'21	Boiler	mg/Nm3	150	PM	8.40
	ARP	mg/Nm3	150	PM	100.63
	Mills	mg/Nm3	150	PM	9.28
Sep'21	Boiler	mg/Nm3	150	PM	10.20
	ARP	mg/Nm3	150	PM	97.16
	Mills	mg/Nm3	150	PM	12.70
Oct'21	Boiler	mg/Nm3	150	PM	8.41
	ARP	mg/Nm3	150	PM	106.06
	Mills	mg/Nm3	150	PM	10.87
Nov'21	Boiler	mg/Nm3	150	PM	5.04
	ARP	mg/Nm3	150	PM	137.49
	Mills	mg/Nm3	150	PM	5.57

Note:

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

Sr. Manager
 Env. Online Instruments

Head
 Monitoring, Testing and Analysis



Tata Steel Limited
Environmental Monitoring Report of CRM Bara
Fugitive Emission Monitoring Report from Mar'21 to Sep'21

SN	Location	UoM	Apr'21	May'21	June'21	July'21	Aug'21	Sep'21
1	Near RCPH Pump House	mg/m3	0.5	0.7	0.6	0.4	0.8	0.8
2	Near Pickling Line Exit	mg/m3	0.6	1.0	1.0	0.4	0.6	0.5
3	Near Mills Stand	mg/m3	0.7	0.8	0.9	0.6	0.6	0.5
4	Near Mill Stand outside	mg/m3	0.7	0.7	0.7	0.4	0.6	0.4
5	1 Mtr. Away From Compressor # 1	mg/m3	1.0	1.0	0.9	0.6	0.4	0.5
6	1 Mtr. Away From Compressor # 2	mg/m3	1.1	1.0	0.7	0.6	0.4	0.6
7	1 Mtr. Away From Compressor # 3	mg/m3	1.1	1.0	0.6	0.6	0.5	0.5
8	1 Mtr. Away From Compressor # 4	mg/m3	0.8	1.0	0.5	0.4	0.4	0.5
9	Inside Room Compressor	mg/m3	0.7	1.0	0.8	0.6	0.6	0.4
10	Inside Boiler House	mg/m3	0.6	0.9	0.4	0.4	0.6	0.5
11	ARP Pump Room	mg/m3	0.5	0.6	0.5	0.4	0.4	0.6
12	Sticher Area	mg/m3	0.6	0.7	0.2	0.6	0.4	0.7
13	Rince Tank Area	mg/m3	0.6	0.9	0.4	0.7	0.4	0.6
14	Main Office	mg/m3	0.5	0.8	0.6	0.6	0.4	0.5
15	Near Gate # 1	mg/m3	0.9	0.8	1.0	0.8	0.8	0.9
16	Near Gate # 2	mg/m3	0.8	0.9	1.0	0.9	0.8	0.9
17	Coil Receiving Area	mg/m3	0.6	0.6	0.6	0.6	0.4	0.6

N/O- NOT IN OPERATION

Note:

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

Manager
Environment Compliances

Head
Monitoring, Testing and Analysis



Accredited Laboratory
Certificate No.TC-5729



Ramky Enviro Engineers Limited

Unit :- Rajasthan Waste Management Project, TSDF-Udaipur

ISO 9001:2008 | ISO 14001:2004 | OHSAS 18001:2007 | IMS PAS 99:2066
C No FS570987 | C No EMS 570797 | C No OHS 570500 | C No IM 570907

COMPREHENSIVE ANALYSIS REPORT

Report No.	RWMP/Lab/CA/102/20-21	Report Date	2	3	.	0	9	.	2	0	2
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Name of Client	: M/s. TATA STEEL LTD.											
Contact Details	: -											
	CRM COMPLEX BARA, PO:AGRICO,JAMSHEDPUR-831009											
Telephone No.	:	Fax No.	:									
Email ID	:											
Membership No.	: -											

Name of Sample / Hazardous Waste	: ETP Sludge												
Description of Sample When Received	: Solid												
Sample Reference Number	:	102/20-21	Sample Received Date	0	8	.	0	9	.	2	0	2	0
Sample Drawn By	:												
Waste Category:	Schedule-I, Cat. -35.3												
RAW Material List / Process Details Enclosed	<input type="checkbox"/> Yes					<input checked="" type="checkbox"/> NO							
MSDS Provided by Client	<input type="checkbox"/> Yes					<input checked="" type="checkbox"/> NO							
Sample Registration No:	RWMP/LAB/CA/102/20-21												
Confirmation Date	1	5	.	0	9	.	2	0	2	0	Confirmation by: MBD Dept., RWMP		

Analysis start date	1	5	.	0	9	.	2	0	2	0		
Testing Period	09 Days											

R. Parmar
Authorized Signatory
(Rajkumar Parmar - Dy. Manager)



Towards sustainable growth

Site Address :

Ramky Enviro Engineers Limited
Unit : Rajasthan Waste Management Project, TSDF-Udaipur
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Zinc Smelter Chauraha, Debari Railway Station Road,
Udaipur - 313024 (Raj.) Tel. : +91-294-2802032, 2658253-54
Email : rwmp@ramky.com

MANAGING HAZARDOUS WASTE



Corporate Office :

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COMPREHENSIVE ANALYSIS REPORT

Report No.	RWMP/Lab/CA/102/20-21	Report Date	2	3	.	0	9	.	2	0	2
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Sr. No.	Particulars	Observation		Remarks (If any)
1*	Does the waste have strong Odor?	<input type="checkbox"/> Y	<input checked="" type="checkbox"/> N	
2*	Does the waste give fumes exposed to the atmosphere?	<input type="checkbox"/> Y	<input checked="" type="checkbox"/> N	
3*	Does the waste react with water?	<input type="checkbox"/> Y	<input checked="" type="checkbox"/> N	
4*	Is the waste incompatible with any material? If so specify	<input type="checkbox"/> Y	<input checked="" type="checkbox"/> N	

Towards sustainable growth

TEST REPORT

Sr. No.	Parameter	Unit	Method	Result	CPCB limit for direct landfill disposal
5*	Physical State	-	-	Solid	Not Specified
6*	Color	-	-	Black	Not Specified
7*	Texture	-	-	Wet	Not Specified
8	PFLT (Paint Filter Liquid Test)	-	USEPA 1998, SW-846; 9095A	Pass	Pass
9	Bulk Density	g/cc	APHA 23 rd Edition; 2710 F	1.22	Not Specified
10	Calorific Value	cal/g	IS:1350 Part II - 1970	385.40	<2500
11*	Flash Point	°C	USEPA 1998, SW 846; 1020 A	>60	>60
12	Moisture Content	%	IS 326 (Part 21): 2001	NA	Not Specified
13	LOD @ 105°C	%	APHA 23 rd Edition, 2017; 2540	66.59	Not Specified
14	LOI @ 550°C	%	APHA 23 rd Edition, 2017; 2540	7.32	<20
15*	Ash Content @ 900°C	%	APHA 23 rd Edition, 2017; 2540	91.48	Not Specified

Authorized Signatory
(Rajkumar Parmar - Dy. Manager)



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COMPREHENSIVE ANALYSIS REPORT

IS : 9001:2008 | C No. TC-5729 | ISO 14001:2004 | ISO 45001:2018 | IMS PAS 99:2066
C No. PS/09987 | C No. EMS-370797 | C No. OHS-370500 | C No. IM 570907

Report No.	RWMP/Lab/CA/102/20-21	Report Date	2	3	.	0	9	.	2	0	2
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Sr. No.	Parameter	Unit	Method	Result	CPCB limit for direct landfill disposal
16	pH (At Room Temperature)	-	USEPA 1998, SW-846; 9045 C	8.46	4 -12
17	Chloride as Cl ⁻	mg/kg	APHA 23 rd Edition; 4500 SO ₄ ²⁻ - E	3610.67	Not Specified
18*	Nitrate as NO ₃ ⁻	mg/kg	APHA 23 rd Edition, 4500 NO ₃ ⁻ - B	5.04	<30
19	Sulphate as SO ₄ ²⁻	mg/kg	USEPA 1998, SW-846; 9253	217.47	Not Specified
20*	Fluorides as F ⁻	mg/kg	APHA 23 rd Edition; 4500 F ⁻ - D	ND	Not Specified
21*	Phosphate as PO ₄ ³⁻	mg/kg	APHA 23 rd Edition; 4500 PO ₄ ³⁻ - E	15.12	Not Specified
22*	Specific Gravity	g/cc	APHA 23 rd Edition; 2710 F	NA	Not Specified
23*	Organic Halogens	mg/kg	SW-846; 5050 & 9253	ND	Not Specified
24*	Reactive Cyanide as HCN	mg/kg	USEPA 1998, SW-846; 9014	<1.0	<250
25*	Reactive Sulphide as H ₂ S	mg/kg	USEPA 1998, SW-846; 9034	<10.0	<500
26*	Carbon	%	CHNS Analyzer	NA	Not Specified
27*	Hydrogen	%	CHNS Analyzer	NA	Not Specified
28*	Nitrogen	%	CHNS Analyzer	NA	Not Specified
29*	Sulphur	%	CHNS Analyzer	NA	Not Specified
30	Copper as Cu- Total	mg/kg	USEPA 1998, SW-846; 7210	122.10	Not Specified
31	Total Chromium as Cr- Total	mg/kg	USEPA 1998, SW-846; 7190	108.57	Not Specified
32	Iron as Fe- Total	mg/kg	USEPA 1998, SW-846; 7380	217944.90	Not Specified
33	Lead as Pb- Total	mg/kg	USEPA 1998, SW-846; 7420	93.47	Not Specified
34	Manganese as Mn - Total	mg/kg	USEPA 1998, SW-846; 7460	1495.41	Not Specified

Towards sustainable growth

Authorized Signatory
(Rajkumar Parmar - Dy. Manager)




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C No FS570987 | C No EMS 570797 | C No OHS 570500 | C No IM 570907

COMPREHENSIVE ANALYSIS REPORT

Report No.	RWMP/Lab/CA/102/20-21	Report Date	2	3	.	0	9	.	2	0	2
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Sr. No.	Parameter	Unit	Method	Result	CPCB limit for direct landfill disposal
35	Nickel as Ni- Total	mg/kg	USEPA 1998, SW-846; 7520	440.62	Not Specified
36	Zinc as Zn- Total	mg/kg	USEPA 1998, SW-846; 7950	2053.10	Not Specified
37*	Cobalt as Co- Total	mg/kg	USEPA 1998, SW-846; 7200	13.52	Not Specified
38	Cadmium as Cd- Total	mg/kg	USEPA 1998, SW-846; 7130	12.43	Not Specified
(TCLP) Toxicity Characteristics Leaching Procedure					
39*	Arsenic as As	mg/L	USEPA 1998, SW-846; 7061 A	NA	<1
40	Cadmium as Cd	mg/L	USEPA 1998, SW-846; 7130	BDL	<0.2
41	Total Chromium as Cr	mg/L	USEPA 1998, SW-846; 7190	BDL	Not Specified
42*	Hexavalent Chromium as Cr ⁶⁺	mg/L	APHA 23 rd Edi., 2017: 3500 Cr B	<0.1	<0.5
43*	Cobalt as Co	mg/L	USEPA 1998, SW-846; 7200	BDL	Not Specified
44	Copper as Cu	mg/L	USEPA 1998, SW-846; 7210	BDL	<10
45	Iron as Fe	mg/L	USEPA 1998, SW-846; 7380	1.940	<3
46	Lead as Pb	mg/L	USEPA 1998, SW-846; 7420	0.074	<2
47	Manganese as Mn	mg/L	USEPA 1998, SW-846; 7460	0.066	Not Specified
48	Nickel as Ni	mg/L	USEPA 1998, SW-846; 7520	0.049	<3
49	Zinc as Zn	mg/L	USEPA 1998, SW-846; 7950	0.052	<10
(WLT) Water Leaching Testing					CPCB/HAZWAMS /TSDF Protocol/2010-2011
50*	Arsenic as As	mg/L	USEPA 1998, SW-846; 7061 A	NA	<1.0
51*	Cadmium as Cd	mg/L	APHA 23 rd Edition, 3111 B	0.069	<0.2
52*	Total Chromium as Cr	mg/L	APHA 23 rd Edition, 3111 B	BDL	Not Specified

Towards sustainable growth

R. Parmar
Authorized Signatory
(Rajkumar Parmar - Dy. Manager)

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Rev. No. 01/ 04.08.2018



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ISO 9001:2008 | ISO 14001:2004 | OHSAS 18001:2007 | IMS PAS 99:2006
C No FSS70987 | C No FMS 570707 | C No OHS 570500 | C No IM 570907

COMPREHENSIVE ANALYSIS REPORT

Report No.	RWMP/Lab/CA/102/20-21	Report Date	2	3	.	0	9	.	2	0	2
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53*	Hexavalent Chromium as Cr ⁶⁺	mg/L	APHA 23 rd Edi., 2017: 3500 Cr B	<0.1	<0.5
54*	Cobalt as Co	mg/L	APHA 23 rd Edition,3111 B	BDL	Not Specified
55*	Copper as Cu	mg/L	APHA 23 rd Edition,3111 B	0.008	<10
56*	Iron as Fe	mg/L	APHA 23 rd Edition,3111 B	1.920	<3
57*	Lead as Pb	mg/L	APHA 23 rd Edition,3111 B	0.072	<2
58*	Manganese as Mn	mg/L	APHA 23 rd Edition,3111 B	0.063	Not Specified
59*	Nickel as Ni	mg/L	APHA 23 rd Edition,3111 B	0.048	<3
60*	Zinc as Zn	mg/L	APHA 23 rd Edition,3111 B	0.049	<10

Towards sustainable growth

Safety Instructions for Handling of Hazardous Waste (if any) -
Use PPE's during handling of ETP Sludge.

ABBREVIATIONS

- CPCB** - Central Pollution Control Board
- SW 846** - Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, USEPA,1998
- Std. Methods** - Standard Methods for the Examination of Water & Wastewater, APHA 23rd Edition, 2017
- TCLP** - Toxicity Characteristic Leaching Procedure
- WLT** - Water Leaching Testing
- LOD** - Loss on Drying
- LOI** - Loss on Ignition
- NA** - Not Applicable
- ND** - Not Detected
- BDL** - Below Detectable Limit
- Y** - Yes
- N** - No

"The tests marked with an * are not accredited by NABL"

Authorized Signatory: *R. Parmar*
(Rajkumar Parmar - Dy. Manager)

Site Address :
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Email : rwmp@ramky.com

MANAGING HAZARDOUS WASTE



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C No FS570987 | C No EMS 570797 | C No OHS 570500 | C No IM 570907

COMPREHENSIVE ANALYSIS REPORT

Report No.	RWMP/Lab/CA/102/20-21	Report Date	2	3	.	0	9	.	2	0	2
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- Inland Surface discharge water standard Applicable.

TERMS AND CONDITIONS

1. The analysis report refers only to the 'as received' sample of waste
2. The report cannot be produced in part or in full without the permission of Rajasthan Waste Management Project
3. In the absence of specific request from the customer, RWMP follows National/International standards specifications for conducting the tests. Alternatively, in the absence of these methods, RWMP shall follow the operating procedures developed by RWMP.
4. The laboratory, normally, will not offer any opinion/advise or recommendation with respect to the suitability or otherwise of the sample for any application or use. Conformities to a specification or Act will be mentioned as per the Act/specification, if required.
5. Under no circumstances RWMP accepts any liability or loss or damage caused by use or misuse of the test report. Liability is limited to the testing fee charged, in case of proven negligence by the laboratory.
6. RWMP shall not assume any responsibility for variation in test results of samples kept on hold for want of clarification.
7. Client may visit (If desired) our laboratory to witness the related tests.
8. This Test report is valid for two years from the date of issue of report, if there is no change in processes, raw materials etc.

Towards sustainable growth

Disposal Pathway/Opinions/Interpretations

Direct Landfill

END OF REPORT

R. Parmar
Authorized Signatory
(Rajkumar Parmar – Dy. Manager)



Page 6 of 6

Rev. No. 01/ 04.08.2018

Site Address :
Ramky Enviro Engineers Limited
Unit : Rajasthan Waste Management Project, TSDF-Udaipur
Survey No- 10/10/15, Village-Guan,

MANAGING HAZARDOUS WASTE

Corporate Office :
Ramky Enviro Engineers Ltd.



Ramky Grandline, Floor-12/12, Ramky Tower Complex,
Rajkot, Gujarat - 360002



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COMPREHENSIVE ANALYSIS REPORT

Towards sustainable growth

Report No.	RWMP/Lab/CA/99/20-21	Report Date	2	3	.	0	9	.	2	0	2
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Name of Client	: M/s. TATA STEEL LTD.											
Contact Details	: -											
	CRM COMPLEX BARA, PO:AGRICO,JAMSHEDPUR-831009											
Telephone No.	:	Fax No.	:									
Email ID	:											
Membership No.	:											

Name of Sample / Hazardous Waste	: Wastes/Residues Containing Oil												
Description of Sample When Received	: Solid												
Sample Reference Number	:	99/20-21	Sample Received Date	0	8	.	0	9	.	2	0	2	0
Sample Drawn By	:												
Waste Category:	Schedule-I, Cat. -												
RAW Material List / Process Details Enclosed	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> NO											
MSDS Provided by Client	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> NO											
Sample Registration No:	RWMP/LAB/CA/99/20-21												
Confirmation Date	1	5	.	0	9	.	2	0	2	0	Confirmation by: MBD Dept., RWMP		

Analysis start date	1	5	.	0	9	.	2	0	2	0		
Testing Period	09 Days											

R. Parmar
Authorized Signatory
(Rajkumar Parmar - Dy. Manager)



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Report No.	RWMP/Lab/CA/99/20-21	Report Date	2	3	.	0	9	.	2	0	2
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Sr. No.	Particulars	Observation		Remarks (If any)
1*	Does the waste have strong Odor?	<input type="checkbox"/> Y	<input checked="" type="checkbox"/> N	
2*	Does the waste give fumes exposed to the atmosphere?	<input type="checkbox"/> Y	<input checked="" type="checkbox"/> N	
3*	Does the waste react with water?	<input type="checkbox"/> Y	<input checked="" type="checkbox"/> N	
4*	Is the waste incompatible with any material? If so specify	<input type="checkbox"/> Y	<input checked="" type="checkbox"/> N	

Towards sustainable growth

TEST REPORT

Sr. No.	Parameter	Unit	Method	Result	CPCB limit for direct landfill disposal
5*	Physical State	-	-	Solid	Not Specified
6*	Color	-	-	Black	Not Specified
7*	Texture	-	-	Wet	Not Specified
8	PFLT (Paint Filter Liquid Test)	-	USEPA 1998, SW-846; 9095A	Pass	Pass
9	Bulk Density	g/cc	APHA 23 rd Edition; 2710 F	0.84	Not Specified
10	Calorific Value	cal/g	IS:1350 Part II - 1970	8237.32	<2500
11*	Flash Point	°C	USEPA 1998, SW 846; 1020 A	>60	>60
12	Moisture Content	%	IS 326 (Part 21): 2001	NA	Not Specified
13	LOD @ 105°C	%	APHA 23 rd Edition, 2017; 2540	13.55	Not Specified
14	LOI @ 550°C	%	APHA 23 rd Edition, 2017; 2540	83.51	<20
15*	Ash Content @ 900°C	%	APHA 23 rd Edition, 2017; 2540	16.20	Not Specified

Authorized Signatory
(Rajkumar Parmar - Dy. Manager)



Page 2 of 6

Rev. No. 01/ 04.08.2018

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Report No.	RWMP/Lab/CA/99/20-21	Report Date	2	3	.	0	9	.	2	0	2
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Sr. No.	Parameter	Unit	Method	Result	CPCB limit for direct landfill disposal
16	pH (At Room Temperature)	-	USEPA 1998, SW-846; 9045 C	6.89	4 -12
17	Chloride as Cl ⁻	mg/kg	APHA 23 rd Edition; 4500 SO ₄ ²⁻ - E	307.30	Not Specified
18*	Nitrate as NO ₃ ⁻	mg/kg	APHA 23 rd Edition, 4500 NO ₃ ⁻ - B	6.37	<30
19	Sulphate as SO ₄ ²⁻	mg/kg	USEPA 1998, SW-846; 9253	224.15	Not Specified
20*	Fluorides as F ⁻	mg/kg	APHA 23 rd Edition; 4500 F ⁻ - D	ND	Not Specified
21*	Phosphate as PO ₄ ³⁻	mg/kg	APHA 23 rd Edition; 4500 PO ₄ ³⁻ - E	3.18	Not Specified
22*	Specific Gravity	g/cc	APHA 23 rd Edition; 2710 F	NA	Not Specified
23*	Organic Halogens	mg/kg	SW-846; 5050 & 9253	1232.34	Not Specified
24*	Reactive Cyanide as HCN	mg/kg	USEPA 1998, SW-846; 9014	<1.0	<250
25*	Reactive Sulphide as H ₂ S	mg/kg	USEPA 1998, SW-846; 9034	<10.0	<500
26*	Carbon	%	CHNS Analyzer	NA	Not Specified
27*	Hydrogen	%	CHNS Analyzer	NA	Not Specified
28*	Nitrogen	%	CHNS Analyzer	NA	Not Specified
29*	Sulphur	%	CHNS Analyzer	NA	Not Specified
30	Copper as Cu- Total	mg/kg	USEPA 1998, SW-846; 7210	NA	Not Specified
31	Total Chromium as Cr- Total	mg/kg	USEPA 1998, SW-846; 7190	NA	Not Specified
32	Iron as Fe- Total	mg/kg	USEPA 1998, SW-846; 7380	NA	Not Specified
33	Lead as Pb- Total	mg/kg	USEPA 1998, SW-846; 7420	NA	Not Specified
34	Manganese as Mn - Total	mg/kg	USEPA 1998, SW-846; 7460	NA	Not Specified

Towards sustainable growth

R. Parmar
Authorized Signatory
(Rajkumar Parmar - Dy. Manager)

MANAGING HAZARDOUS WASTE

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REEL CIN:U74140AP1994PLC018833



Accredited Laboratory
Certificate No.TC-5729



Ramky Enviro Engineers Limited

Unit :- Rajasthan Waste Management Project, TSDf-Udaipur

ISO 9001:2008 | ISO 14001:2004 | OHSAS 18001:2007 | IMS PAS 99:2066
C No FS570987 | C No EMS 570797 | C No OHS 570500 | C No IM 570907

COMPREHENSIVE ANALYSIS REPORT

Report No.	RWMP/Lab/CA/99/20-21	Report Date	2	3	.	0	9	.	2	0	2
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Sr. No.	Parameter	Unit	Method	Result	CPCB limit for direct landfill disposal
35	Nickel as Ni- Total	mg/kg	USEPA 1998, SW-846; 7520	NA	Not Specified
36	Zinc as Zn- Total	mg/kg	USEPA 1998, SW-846; 7950	NA	Not Specified
37*	Cobalt as Co- Total	mg/kg	USEPA 1998, SW-846; 7200	NA	Not Specified
38	Cadmium as Cd- Total	mg/kg	USEPA 1998, SW-846; 7130	NA	Not Specified

(TCLP) Toxicity Characteristics Leaching Procedure

39*	Arsenic as As	mg/L	USEPA 1998, SW-846; 7061 A	NA	<1
40	Cadmium as Cd	mg/L	USEPA 1998, SW-846; 7130	0.089	<0.2
41	Total Chromium as Cr	mg/L	USEPA 1998, SW-846; 7190	BDL	Not Specified
42*	Hexavalent Chromium as Cr 6+	mg/L	APHA 23 rd Edi., 2017: 3500 Cr B	<0.1	<0.5
43*	Cobalt as Co	mg/L	USEPA 1998, SW-846; 7200	0.009	Not Specified
44	Copper as Cu	mg/L	USEPA 1998, SW-846; 7210	BDL	<10
45	Iron as Fe	mg/L	USEPA 1998, SW-846; 7380	69.230	<3
46	Lead as Pb	mg/L	USEPA 1998, SW-846; 7420	0.132	<2
47	Manganese as Mn	mg/L	USEPA 1998, SW-846; 7460	1.112	Not Specified
48	Nickel as Ni	mg/L	USEPA 1998, SW-846; 7520	2.578	<3
49	Zinc as Zn	mg/L	USEPA 1998, SW-846; 7950	0.821	<10

(WLT) Water Leaching Testing

					CPCB/HAZWAMS /TSDf Protocol/2010-2011
50*	Arsenic as As	mg/L	USEPA 1998, SW-846; 7061 A	NA	<1.0
51*	Cadmium as Cd	mg/L	APHA 23 rd Edition,3111 B	0.068	<0.2
52*	Total Chromium as Cr	mg/L	APHA 23 rd Edition,3111 B	BDL	Not Specified

Authorized Signatory
(Rajkumar Parmar – Dy. Manager)



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53*	Hexavalent Chromium as Cr ⁶⁺	mg/L	APHA 23 rd Edi., 2017: 3500 Cr B	<0.1	<0.5
54*	Cobalt as Co	mg/L	APHA 23 rd Edition,3111 B	0.006	Not Specified
55*	Copper as Cu	mg/L	APHA 23 rd Edition,3111 B	BDL	<10
56*	Iron as Fe	mg/L	APHA 23 rd Edition,3111 B	59.850	<3
57*	Lead as Pb	mg/L	APHA 23 rd Edition,3111 B	0.126	<2
58*	Manganese as Mn	mg/L	APHA 23 rd Edition,3111 B	1.002	Not Specified
59*	Nickel as Ni	mg/L	APHA 23 rd Edition,3111 B	2.501	<3
60*	Zinc as Zn	mg/L	APHA 23 rd Edition,3111 B	0.677	<10

Towards sustainable growth

Safety Instructions for Handling of Hazardous Waste (if any) -

Use PPE's during handling of Wastes/Residues Containing Oil.

ABBREVIATIONS

- CPCB** - Central Pollution Control Board
- SW 846** - Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, USEPA,1998
- Std. Methods** - Standard Methods for the Examination of Water & Wastewater, APHA 23rd Edition, 2017
- TCLP** - Toxicity Characteristic Leaching Procedure (Carried out in Ash Sample)
- WLT** - Water Leaching Testing (Carried out in Ash Sample)
- LOD** - Loss on Drying
- LOI** - Loss on Ignition
- NA** - Not Applicable
- ND** - Not Detected
- BDL** - Below Detectable Limit
- Y** - Yes
- N** - No

"The tests marked with an * are not accredited by NABL"

R. Parmar
Authorized Signatory
(Rajkumar Parmar - Dy. Manager)



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- Inland Surface discharge water standard Applicable.

TERMS AND CONDITIONS

1. The analysis report refers only to the 'as received' sample of waste
2. The report cannot be produced in part or in full without the permission of Rajasthan Waste Management Project
3. In the absence of specific request from the customer, RWMP follows National/International standards specifications for conducting the tests. Alternatively, in the absence of these methods, RWMP shall follow the operating procedures developed by RWMP.
4. The laboratory, normally, will not offer any opinion/advise or recommendation with respect to the suitability or otherwise of the sample for any application or use. Conformities to a specification or Act will be mentioned as per the Act/specification, if required.
5. Under no circumstances RWMP accepts any liability or loss or damage caused by use or misuse of the test report. Liability is limited to the testing fee charged, in case of proven negligence by the laboratory.
6. RWMP shall not assume any responsibility for variation in test results of samples kept on hold for want of clarification.
7. Client may visit (If desired) our laboratory to witness the related tests.
8. This Test report is valid for two years from the date of issue of report, if there is no change in processes, raw materials etc.

Disposal Pathway/Opinions/Interpretations

Incineration After Treatment

END OF REPORT

Authorized Signatory
(Rajkumar Parmar – Dy. Manager)



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Towards sustainable growth

Rejuvenation of Water bodies by water Harvesting activities at CRM Bara Complex

Background: There were 3 major ponds in the North side of CRM Bara Complex, which were primarily used for disposal of ash from Captive Power Plants from Main Steel Work and storage of treated sewage from Sewage Treatment Plant at Bara.

Meanwhile, the coal fired captive power plants were converted to gas-based power plants using by-product gases from the steel plant. Eventually, these ponds became redundant.

Requirement: There is a need to save and maintain water bodies in the area for rainwater harvesting and to maintain greenery in the periphery and other available spaces by enhancing the plant density and biodiversity. It was proposed to take up projects related to rejuvenation of water bodies at CRM Bara Complex.



Pre-Project Condition of Ponds

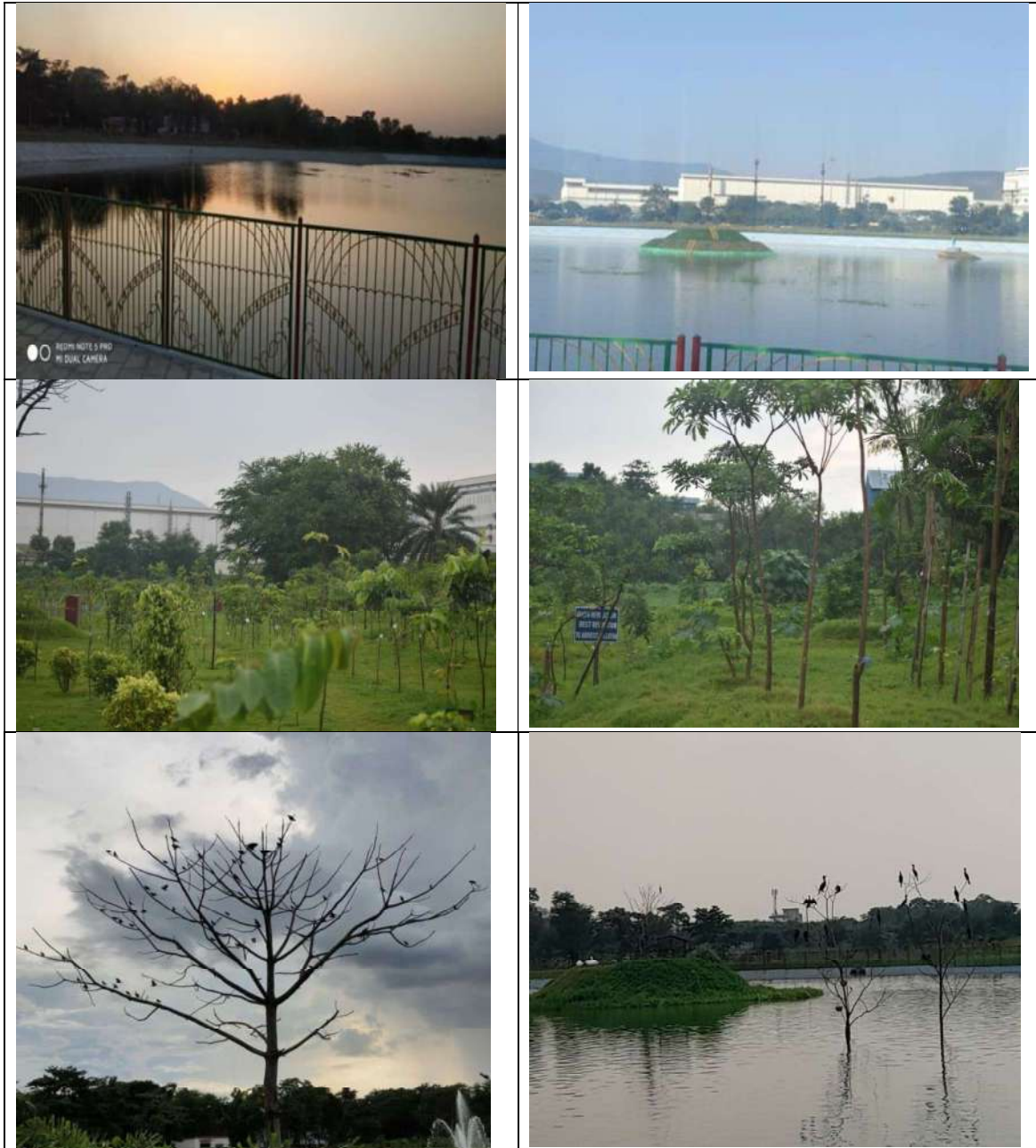
Project Work: Rejuvenation of ponds was done for an pond area of approx. 6.5 acres (26000 sq. m), depth 3 meter and surrounded by bund measuring 3X6X1.5 meter. These bunds were created around the rejuvenated water ponds from the excavated earth and have inspection pathway and grills for safety purpose. The project was started on 5th June 2019 completed on 4th March 2020. The pond was inaugurated by CEO & MD, Tata Steel on 27th Aug 2020.

Rejuvenation of Water bodies: The water body is fitted with fountains for ensuring adequate aeration and sustaining of aquatic life. This helps to maintain the water quality to a desired level. Capacity of the rejuvenated pond is 75000 m³ storage capacity. Planation was done in all the remaining vacant surrounding area. Several species of birds, butterflies etc. are coming to the pond and surrounding green area to increase the biodiversity

Benefits from the Projects

1. The Biodiversity of pond and surrounding will increase.
2. Migratory birds will be back to the pond during winter season
3. Look and feel of the area will become better
4. Support in rain water harvesting by collecting more rain water from surrounding catchment
5. Ensure the compliance to the CTO Conditions

Post-Project Condition of Ponds:



Annexure-III

Action Plan to Reduce Solid Waste at CRM Bara

CRM Complex Bara is located besides Tata BlueScope Steel Ltd. & TSDPL at Bara, Janshedpur, Singhbhum district.

Process facilities at CRM Bara

Cold Rolling Mill Complex Bara mainly comprises of

- a) Pickling line
- b) Acid Regeneration Plant
- c) Reversing Cold Rolling Mill
- d) Skin pass mill
- e) Inspection line and Parting line
- f) Utilities

Solid waste generated at CRM Bara is 100% recycled through in-house utilization in Tata Steeland some being external utilization by recyclers. Generation of Solid waste is being reduced by improving plant operation & efficiency.

Details of solid wastes generated, and utilization are as below:

1. **Iron Oxide from Acid Regeneration Plant:** During recovery of Hydrochloric Acid from waste pickle liquor, Iron oxide is generated as a by-product. Iron oxide generated from ARP is sent to recyclers through Tata Steel- Industrial By-product Management Department (IBMD). After processing, it is being used in paint and pigment industries. In FY21, 2674 tons of Iron Oxide were generated which was 100% utilized through external consumption by Recyclers.
2. **Re-melting Scrap:** During coil processing both sides of HR coils are trimmed to obtain correct quality of products. Generated re-melting scraps are used internally for the purposes of scrap charging in our LD shops for steel making process at Tata Steel Main Works. In FY21, 7675 tons of Re-melting Scrap were generated which was 100% utilized through internal consumption in the manufacturing process of Tata Steel.
3. **Pup Coil:** During pickling process defects are generated due to line stoppages. To produce good quality of product pup coils are being generated. Pup coils are processed as cut-to-length sheet and it is sold by IBMD to external customers. In FY21, 10286 tons of Pup Coil were generated which was 100% utilized through external consumption by Recyclers.
4. **Metallic Straps:** HR coils are bind with the help of straps. During processing of HR coils straps are being cut and discarded. Discarded straps are collected and being sold to external recyclers through IBMD. In FY21, 30 tons of Metallic Straps were generated which was 100% utilized through external consumption by Recyclers.

Annexure-IV

Public hearing commitments and their compliance status for expansion of 0.3 MTPA to 0.8 MTPA EC
CRM Bara, Dated 08/05/2014

SN	Name	Questions	Action Plan given in EIA	Present status of compliance
01	Shri Suresh Sonthalia President, Singhbhum Chamber of Commerce	We welcome the expansion of the project. People will get employment. Region will be developed. Permission for expansion of plant should be granted. Company is doing good work in the region. No accident took place here for the last two to three years. It is also well appreciated that Tata Steel is spending a good amount on environment front. We welcome the decision of plant expansion.	Focus will be made on environment compliance.	CRM Bara plant is running with a focus on environmental compliance.
02	Shri Pavan Tiwari, Bhuiadih	We welcome the expansion of the project. It is a welcoming step that the company is expanding. But the management has to pay special attention for the development of surrounding region. Attention may be given on basic problems of local people.	CSR Committee has been formed and action plan is under preparation.	Health, Sanitation (Domestic Toilets), Drinking Water, Education, Livelihood (Skill Development), Livelihood (Agriculture), Sports, Infrastructure & Urban Services, Environment and Ethnicity are undertaken under CSR activities of Tata Steel Ltd.
03.	Shri Bharat Vasani Vice-President, Singhbhum Chamber of Commerce	We welcome the expansion of the project. Whatever the plans are made by the company to ensure that there should not be any pollution effect on environment with expansion of plant. Company has to spend on environmental protection as per its plan so that the environment can be protected.	Action plan prepared and will be implemented accordingly.	For environment protection, 7.7 Cr spent as capital cost. Details are as below: 1. Provision of online Environment monitoring Equipment and display- 1.08 Cr 2. Rejuvenation of Water bodies- 6.94 Cr
04.	Shri Ramashray Prasad, INTUC	Company has to expand. Company should be developed. People should also get employment. Civic amenities should be developed in the surrounding area. Management should also focus and share information about how many permanent and temporary employees/ workers will be required.	Issues are being taken care under CSR activities.	Health, Sanitation (Domestic Toilets), Drinking Water, Education, Livelihood (Skill Development), Livelihood (Agriculture), Sports, Infrastructure & Urban Services, Environment and Ethnicity are undertaken under CSR activities of Tata Steel Ltd.

Public hearing commitments and their compliance status for expansion of 0.3 MTPA to 0.8 MTPA EC
CRM Bara, Dated 08/05/2014

				More than 50% employment has been given to local people.
05.	Shri Dev Sharan Singh Govindpur	Employment opportunities will increase with the expansion of the plant. Employment should be provided to the citizens/ locals residing within 10 km radius. Infrastructural facilities like drinking water, medical facilities for good health and other basic amenities should be provided by the company. Special attention should be given on environment and pollution.	Various environment protection measures have been taken by the company in the plant as per environment norms. Other issues have been taken care by CSR activities.	<p>Various environment protection measures have been taken by the company such as:</p> <ul style="list-style-type: none"> • Fume extraction system including scrubber in pickling line. • Bag filter in shot blasting machine. • Roof-top ventilation system. • Water sprinkling and mechanized sweeping machine • Effluent treatment plants for the treatment of oily and acidic waste and • STP is installed and operational for treatment of domestic water. • Rejuvenation of water bodies • Green belt development in and around plant. <p>Health, Sanitation (Domestic Toilets), Drinking Water, Education, Livelihood (Skill Development), Livelihood (Agriculture), Sports, Infrastructure & Urban Services, Environment and Ethnicity are undertaken under CSR activities of Tata Steel Ltd.</p> <p>More than 50% employment has been given to local people.</p>
06.	Shri Sonaram Bothra	Employment should be provided to local unemployed people. Priority should also be given in employment for SC and ST people. Management should give attention on poor people. We are not provided any facility.	Local employment has been given on top priorities as per their skill during construction work.	More than 50% employment has been given to local people.

**Public hearing commitments and their compliance status for expansion of 0.3 MTPA to 0.8 MTPA EC
CRM Bara, Dated 08/05/2014**

07.	Shri Gunjan Yadav, Sitaramdera	Due to proposed expansion the traffic may increase. Cutting of trees may be involved. Development of green belt is recommended. Public pumps/ taps should be arranged in local areas by the company/ Unit. We will oppose the plant if water is not available. There is a tribal school in Babudih where 450 children study. Management should also pay attention on this. We are not against for the expansion of the plant. But at the same time company should also give attention on basic problems of local people.	Plantation has been done in & around premises (More than three thousand). Other issues have been considered in CSR activities.	<ul style="list-style-type: none"> • Roads at the Bhuiyadih area are being widened. Other issues had been undertaken under CSR activities. • Green belt at CRM Bara complex has been developed as per CPCB guidelines. • Approx. 3.5 Ha area in and around plant is under plantation which is more than 33% of the plant area. • We have planted 10850 no. of samplings in the above area till date. • We have developed approx. 5m wide area of plantation around the plant as per CPCB guidelines. • Density of plantation > 3000 plants/Ha which is more than CPCB guidelines. • Public pumps/taps has been provided at Bhuiyadih and Babudih
08.	Shri Chandra Sekhar Mishra, President Housing Development Committee	We welcome the expansion of the project. The facilities which were provided by Tata Steel 20 years back, are not made available today. The management should provide infrastructure facilities like electricity, water, medical, education etc. at least in 5 kms radius area instead of 10 kms radius.	Issues are taken care under CSR activities.	Health, Sanitation (Domestic Toilets), Drinking Water, Education, Livelihood (Skill Development), Livelihood (Agriculture), Sports, Infrastructure & Urban Services, Environment and Ethnicity are undertaken under CSR activities of Tata Steel Ltd.
09.	Shri Krishna Prasad Swarnakar, Babudih Basti	Babudih Basti is located in 1 km radius of the company. Waste is dumped by the plant in this area. Basic amenities should be provided to the citizens residing in 10 km radius. Pollution has increased a lot by which people are becoming sick.	Environment management plan under implementation will be strengthened for proposed expansion also.	Health, Sanitation (Domestic Toilets), Drinking Water, Education, Livelihood (Skill Development), Livelihood (Agriculture), Sports, Infrastructure & Urban Services, Environment and Ethnicity are undertaken under CSR activities of Tata Steel Ltd.

Public hearing commitments and their compliance status for expansion of 0.3 MTPA to 0.8 MTPA EC
CRM Bara, Dated 08/05/2014

				<p>Various environment protection measures have been taken by the company such as:</p> <ul style="list-style-type: none"> • Fume extraction system including scrubber in pickling line. • Bag filter in shot blasting machine. • Roof-top ventilation system. • Water sprinkling and mechanized sweeping machine • Effluent treatment plants for the treatment of oily and acidic waste and • STP is installed and operational for treatment of domestic water. • Rejuvenation of water bodies • Green belt development in and around plant.
10.	Shri Sudhir Singh, Secretary Singhbhum Chamber of Commerce	Expansion of plant is a good thing and we welcome the same. Sewage discharge is released without treatment into kharkai and Swarnarekha rivers. This should be stopped immediately. Plant should be operated with pollution free environment.	Company will comply with CPCB norms	<p>Various environment protection measures have been taken by the company such as:</p> <ul style="list-style-type: none"> • Effluent treatment plants for the treatment of oily and acidic waste and • STP is installed and operational for treatment of domestic water. • Rejuvenation of water bodies • Green belt development in and around plant. • Fume extraction system including scrubber in pickling line. • Bag filter in shot blasting machine. • Roof-top ventilation system.

Public hearing commitments and their compliance status for expansion of 0.3 MTPA to 0.8 MTPA EC
CRM Bara, Dated 08/05/2014

				<ul style="list-style-type: none"> Water sprinkling and mechanized sweeping machine are used for dust suppression.
11.	Shri Kaushal Prasad	We welcome the expansion of the plant. Employment will be generated after the expansion. Our income will increase. Our living standards will also improve. Plant Management should also give attention on basic problems of local people. Drinking water, education, medical and training programmes for women for their self-development etc should be provided.	Issues are taken care under CSR activities. Local employment has been given on top priorities as per their skill.	<p>Health, Sanitation (Domestic Toilets), Drinking Water, Education, Livelihood (Skill Development), Livelihood (Agriculture), Sports, Infrastructure & Urban Services, Environment and Ethnicity are undertaken under CSR activities of Tata Steel Ltd.</p> <p>More than 50% employment has been given to local people.</p>
12.	Shri Navin Kumar Bagunnagar	Since Tata steel prefers global tender, contractors from other states will get their work with outside workers. This policy should not work out. The presentation shown by the company is fully false one. We are not opposing expansion of the plant, but expect that the quality of life of contract workers should also be improved.	Local area will be developed under CSR.	<p>Basic needs such as Health, Sanitation (Domestic Toilets), Drinking Water, Education, Livelihood (Skill Development), Livelihood (Agriculture), Sports, Infrastructure & Urban Services, Environment and Ethnicity are undertaken under CSR activities of Tata Steel Ltd.</p> <p>More than 50% employment has been given to local people.</p>
13.	Shri Shankar Soren Baridih	The entire area where plant is established belongs to Tribal. Management should aware and concentrate on the welfare of tribals. Training should be imparted to local youth. Facilities like water education, and health should be provided. If management gives attention on these issues, I don't have any objection for expansion of the plant. We are in favour of this plant.	A committee involving company and knowledgeable / qualified persons will be constituted to solve problems	<p>Basic needs such as Health, Sanitation (Domestic Toilets), Drinking Water, Education, Livelihood (Skill Development), Livelihood (Agriculture), Sports, Infrastructure & Urban Services, Environment and Ethnicity are undertaken under CSR activities of Tata Steel Ltd.</p>
14.	Shri Jeevan Kumar Sahu	I am in favour of expansion of the plant. Company has done a wonderful thing by afforestation work. Water, Electricity,	CSR committee has been formed and action plan is under preparation.	<p>Basic needs such as Health, Sanitation (Domestic Toilets), Drinking Water, Education, Livelihood (Skill Development),</p>

Public hearing commitments and their compliance status for expansion of 0.3 MTPA to 0.8 MTPA EC
CRM Bara, Dated 08/05/2014

		Education and other works which will be beneficial for the public should be done.		Livelihood (Agriculture), Sports, Infrastructure & Urban Services, Environment and Ethnicity are undertaken under CSR activities of Tata Steel Ltd.
15.	Shri Ram Sahni Babudih	Fishes (aquatic) are getting killed due to the acid water discharged from Tata Steel Company. River water is also contaminated leading to skin irritation. Polluted water should be controlled. Facilities like drinking water, education, electricity and medical facilities for health should be provided.	No waste water is being discharged into the rivers. Environmental control measure has been already in place.	No waste water is being discharged into the rivers. All the effluents generated in plant are treated at Effluent treatment plant and domestic waste is treated in Sewage treatment plant. Environmental control measure has been already in place. Basic needs are undertaken under CSR activities.
16.	Shri Goutam Lohar Bagunhatu	Water from the company is discharged in the river. This should be stopped. Employment is given to the outside people. Local people should get employment. Water, electricity, education and better medical facilities for good health should be provided. Nobody knows where women are being trained.	Waste water treatment plant is already in place. No water discharge from our premises. Experts team study is under progress.	All the effluents generated in plant are treated at Effluent treatment plant and domestic waste is treated in Sewage treatment plant. Basic needs such as Health, Sanitation (Domestic Toilets), Drinking Water, Education, Livelihood (Skill Development), Livelihood (Agriculture), Sports, Infrastructure & Urban Services, Environment and Ethnicity are undertaken under CSR activities of Tata Steel Ltd.
17.	Shri P.N.Dixit President, Builders Association	Expansion of the plant should invariably take place. I have been observing and experiencing for the last 52 years that whatever work done by Tata Steel was for the welfare of local people. Plant expansion should take place by paying special attention on environment.	Environment control measure has been already in place.	Environment pollution control measures are already in place. Various environment protection measures have been taken by the company such as: <ul style="list-style-type: none"> • Fume extraction system including scrubber in pickling line. • Bag filter in shot blasting machine.

**Public hearing commitments and their compliance status for expansion of 0.3 MTPA to 0.8 MTPA EC
CRM Bara, Dated 08/05/2014**

				<ul style="list-style-type: none"> • Roof-top ventilation system. • Water sprinkling and mechanized sweeping machine • Effluent treatment plants for the treatment of oily and acidic waste and • STP is installed and operational for treatment of domestic water. • Rejuvenation of water bodies • Green belt development in and around plant.
18.	Shri Vijay Khan	Most of the people from the region are in favour of the expansion of plant. The expectations of people from the company management are not fulfilled by the unit. Contract labourers of Tata group of companies are not getting medical facility in MGM Hospital. One ITI should be opened for the local youth. Water, Electricity, Technical arrangements for higher education, and other basic facilities should be taken care. I am in favour of expansion of the plant.	CSR committee has been formed and action plan is under preparation.	Basic needs such as Health, Sanitation (Domestic Toilets), Drinking Water, Education, Livelihood (Skill Development), Livelihood (Agriculture), Sports, Infrastructure & Urban Services, Environment and Ethnicity are undertaken under CSR activities of Tata Steel Ltd.
19.	Shri Beli Bodhanwala Social worker Jamshedpur	Here everybody wish for the expansion of the plant. I too want the same. Proper planning should be done for controlling pollution effects on environment. Local problems should be resolved under CSR. Attention should be paid for improvement of standard of living.	CSR committee has been formed and action plan is under preparation.	Local problems are being resolved under CSR. Basic needs such as Health, Sanitation (Domestic Toilets), Drinking Water, Education, Livelihood (Skill Development), Livelihood (Agriculture), Sports, Infrastructure & Urban Services, Environment and Ethnicity are undertaken under CSR activities of Tata Steel Ltd. Environment pollution control measures are already in place.
20.	Shri Ranjit Bhattarcharya	Acid water released from the unit should be avoided. Traffic will also be a problem which	Waste water treatment plant is already in place.	No acid water is discharged from the unit/plant. All the effluents generated in plant are treated at Effluent treatment

**Public hearing commitments and their compliance status for expansion of 0.3 MTPA to 0.8 MTPA EC
CRM Bara, Dated 08/05/2014**

	Jamshedpur	should also be addressed. I am in favour of expansion of the plant.	No water discharge from our premises. Experts team study is under progress.	plant and domestic waste is treated in Sewage treatment plant. Roads at the Bhuiyadih and other area are being widened to cater increased traffic load.
21.	Shri Mahesh Santhalia Jamshedpur	I am in favour of expansion of the plant. There should be control/ stoppage of discharge of polluted water from the plant. Drinking water facility should be provided for the local/ Basti people. Proper arrangement should be done to ensure that there is no pollution from the unit/plant.	Environment control measure has been already in place.	Environment control measures are already in place. All the effluents generated in plant are treated at Effluent treatment plant and domestic waste is treated in Sewage treatment plant. Drinking water facility has been provided to local people.
22.	Smt. Santoshi Devi Babudih	Water facility should be provided in Babudih Basti. Even if a Tap is arranged for the public in the road side will also help to some extent.	CSR committee has been formed and action plan is under preparation.	Water facility has been provided in Babudih Basti under CSR activities.
23.	Shri Anand Bihari Dubey Bagunnagar	Earlier also Public Hearing was conducted here in the same place. Assurance was also given for solving / avoiding problems of local people. The presentation which was shown by the management is fully false. There were five-five ponds here where this public hearing is being conducted. Now the ponds have been filled with slag. Due to this, the water levels at Bagun nagar, Bagunhatu, Babudih and Baridih Basti have gone down. There were thousands of trees. Ponds (Talab) were filled and all big-big trees were cut. The water levels here have gone down to 600-700 feet. Company management should arrange public water taps in the region. The polluted water from the company is directly sent to rivers. Outsiders have been provided works in the name of global tenders. I am not against the expansion of the plant. But the problems of the region should be given more concentration.	A committee will be constituted with the company representatives considering view of local people. Efforts will be made to solve the problems in the surrounding areas. Special attention will be given for the community development activities. Direct and indirect employment opportunities will be provided.	<ul style="list-style-type: none"> • Local problems are being resolved under CSR. Basic needs such as Health, Sanitation (Domestic Toilets), Drinking Water, Education, Livelihood (Skill Development), Livelihood (Agriculture), Sports, Infrastructure & Urban Services, Environment and Ethnicity are undertaken under CSR activities of Tata Steel Ltd. • Work for rejuvenation of ponds completed which also cater rain water harvesting. • Green belt in and around plant has been developed. 10850 no. of samplings have been planted till date. • No polluted water is discharged from the unit/plant. All the effluents

Public hearing commitments and their compliance status for expansion of 0.3 MTPA to 0.8 MTPA EC
CRM Bara, Dated 08/05/2014

		A good school for the children, employment for the youth, drinking water in the surrounding areas, electricity, medical facilities, training for women for their self- employment, etc. should be provided. It should be ensured that there will not be any pollution impact on environment. There will be acute opposition if the management neglects the local problems and expands the plant.		generated in plant are treated at Effluent treatment plant and domestic waste is treated in Sewage treatment plant. <ul style="list-style-type: none"> • More than 50% employment has been given to local people.
24.	Shri Feroz Ali Khan Dhatakidih	I am in favour of the expansion of the plant.		
25.	Shri A.K.Srivatsava	We all want that the plant should be expanded. Management also should concentrate on the local problems. Chances will increase for improving employment opportunities with the expansion of the company during this recession period.	Employment opportunities will be provided.	More than 50% employment has been given to local people.
26.	Shri Prambun Kumar Sidgoda	It is pleasure that plant is being expanded. There should not be any pollution due to the plant. The polluted water will be discharged after it's proper treatment. Technical training should be imparted to local youth for getting employment. The assurances given by the company should be fulfilled. Plant should be pollution free.	a committee involving Company and knowledgeable / qualified persons will be constituted to solve the problems.	<ul style="list-style-type: none"> • No polluted water is discharged from the unit/plant. All the effluents generated in plant are treated at Effluent treatment plant and domestic waste is treated in Sewage treatment plant. • Training facility is provided through community centre of company so that local youth can become self-sufficient.



JHARKHAND STATE POLLUTION CONTROL BOARD

TOWNSHIP ADMINISTRATION BUILDING, HEC COMPLEX, DHURWA, RANCHI 834004

Telephone: 0651-2400850 (Fax)/ 2400851/2400852/2401847/2400979/2400139

Ref No. JSPCB/HO/RNC/CTO-1031289/2016/1092

Dated : 2016-12-31

Consent to operate (CTO) under section 25 /26 of the Water (Prevention & Control of Pollution) Act, 1974 and under section 21 of the Air (Prevention & Control of Pollution) Act, 1981

1. Application (s) dated 2016-08-26 of Cold Rolling Mills Complex, Bara of Tata Steel Ltd, Occupier Name :T V Narendran for consent under section 25 (1) (b)/25 (1) (c)/26 of the Water (Prevention & Control of Pollution) Act, 1974 and under section 21(1) of the Air (Prevention & Control of Pollution) Act,1981.

2. **Documents Relied Upon:**

(a)The content of Environmental Clearance (EC) issued vide letter No. F.No.-J-11011/22/2013-IA II(I), Dated 15.09.2015

(b)The content of Consent-to-Establish (CTE), Ref No. G-5592 Ranchi, dated 09.12.2015.

(c) The content of Consent-to-Operate (CTO), vide dated.29.01.2016.

(d) The content of inspection report, Ref. No. 2073 dated 16.09.2016 of Regional Officer, Regional Office - cum-Laboratory, Jamshedpur of the Board.

3. The consent is granted under section 25 / 26 of the Water (Prevention & Control of Pollution) Act, 1974 and under section 21 of the Air (Prevention & Control of Pollution) Act, 1981 to operate the project in Mauza -Ward No. 11, JNAC , P S -Bara , District -EAST SINGHBUM , as follows:

Project	Site-Area		Investment (Rs)	Product & Capacity	Period of CTO	Total
	Plot Nos.	Area				
Before Expansion	62(P), 63(P), 64(P), 65(P), Khata No.-52	8.312 Ha	126 Crores	Cold Rolling Mill - 0.8 MTPA	01.01.2017 to 31.12.2021	

(A) **General Conditions :**

(1) That, the occupier shall comply with all conditions of EC, RefNo F.No.-J-11011/22/2013-IA II(I) , Dated 15/09/2015, CTE, Ref No G-5592 , and dated 09/12/2015 , previous CTO, Ref No dated29/01/2016 and shall submit report to this effect with supporting documents.

(2) That, the occupier shall maintain the ambient air quality within the standard given below:

S N	Parameter	Standard
1	Respirable Suspended Particulate Matter	100 µg/Nm ³
2	Sulphur Dioxide	80 µg/Nm ³
3	Oxides of Nitrogen	80 µg/Nm ³

(3) That, the occupier shall maintain the emission quality within the standard and the quantity, as follows:

S N	Parameter	Standard
1	Particulate Matter	150 mg/Nm ³

(4) That, the occupier shall keep process effluent in close-circuit and the quality of effluent from other sources in conformity with the standard (s) and the discharge quantity as below:

S N	Parameter	Standard
1	Total Suspended Solids	100 mg/L
2	BOD	30 mg/L
3	COD	250 mg/L
4	Oil & Grease	10 mg/L

(5) That, the occupier shall dispose of solid wastes as follows:

S N	Waste Type	Mode of Disposal
1	Hazardous Carbonaceous Wastes	In Co-processing in high temperature furnaces or kilns
2	Hazardous Non-Carbonaceous Wastes	In TSDF
3	Non-Carbonaceous Non-Hazardous solid wastes/ Mine Over Burden	As a substitute of Soil or Mineral

6. That, the occupier shall keep D G Set(s) within acoustic enclosure (s) and shall keep the height(s) of exhaust pipe(s) as per Central Pollution Control Board norm.

7. That, the occupier shall install and maintain Central Ground Water Board/ State Ground Water Directorate approved system of rain water harvesting-cum-ground water recharge.

8. That, the occupier shall create and maintain new water body (ies) / remove deposit(s) of existing water body(ies) and nearby stream(s) & pond(s) and shall maintain the wholesomeness of water.

9. That, the occupier shall grow and maintain greenery in the periphery and other available spaces and shall continue enhancing its plant density and biodiversity.

10. That, the occupier shall submit environmental statement with supporting stoichiometric calculations analyses reports every year.

11. That, the occupier shall submit report(s) duly monitored and issued by an NABL/ISO 9001 with OHSAS 18001 accredited laboratory in compliance of sub-para (2), (3), (4)and (5) of paragraph 3 of this CTO quarterly.

12. That, the occupier shall comply with all applicable provisions of the Water (Prevention & Control of Pollution) Act, 1974; the Water (Prevention & Control of Pollution) Cess Act, 1977; the Air (Prevention & Control of Pollution) Act, 1981; and the Environment (Protection) Act, 1986 and Rules there under.

(B) Specific Conditions:

1. That, the occupier shall upgrade, maintain and operate pollution control equipments regularly to meet emission standard.
2. That, the occupier shall operate and maintain ETP and STP regularly.
3. That, the occupier shall interlock the production with pollution control equipments.
4. That, the occupier shall construct pucca road inside the factory and shall maintain good house keeping.
5. That, the occupier shall install online monitoring system for ambient air, all stacks, effluent and shall make data connectivity to CPCB/SPCB.
6. That, the occupier shall establish at least four ambient air quality monitoring stations in the downward direction as well as where maximum ground level concentration of SPM, SO₂ and NO_x are anticipated in consultation with CPCB.
7. That, the occupier shall control secondary fugitive emissions within the latest permissible limits issued by ministry and regularly monitored.
8. That, the occupier shall keep the overall noise levels in and around the plant area within the prescribed limits by providing noise control measures including acoustic hoods, silencers, enclosure etc. on all sources of noise generation.
09. That, the occupier shall implement recommendations made to the steel plants in the Corporate Responsibility for Environment Conservation (CREP) programme..
- 10.. That, the occupier shall submit six monthly compliance report of conditions imposed in Environmental Clearance to the Board regularly.
11. That, the occupier shall grant of this Consent-to-Operate is issued from the Environmental angle only and does not absolves the project proponent from the other statutory obligations prescribed under any other law or any other instrument in force. The sole and complete responsibility, to comply with the conditions laid down in all other laws for the time-being in force, rests with the industry /unit/project proponent.
12. That, the grant of this Consent-to-Operate shall not, in any way, adversely affect or jeopardize the legal proceedings, if any, instituted in the past or that could be instituted against you by the State Board for violation of the provisions of the Act or the Rules made there under.
13. That, the occupier shall submit applications for renewal of consent under section 25/26 of the Water Prevention & Control of Pollution) Act, 1974 and under section 21 of the Air (Prevention & Control of Pollution) Act, 1981 again 120 days prior to the date of expiry of this consent i.e. 31.12.2021, with requisite fee and documents showing compliance of all of the above conditions.

4. The Order shall be valid subject to compliance of all other legal requirements applicable to the unit.

This is issued with the approval of the Competent authority

Sanjay Kumar Suman
Member Secretary

Memo No. : JSPCB/HO/RNC/CTO-
1031289/2016/1092

Dated : 2016-12-31

Copy to: M/s Cold Rolling Mills Complex, Bara of Tata Steel Ltd., At-Cold Rolling Mills Complex (CRMC), Bara, Jamshedpur/ Director of Industry, Government of Jharkhand, Ranchi/ Deputy Commissioner, East Singhbhum / Chief Inspector of Factories, Ranchi/ Regional Office-cum-Laboratory, Jamshedpur for information & necessary action.

Sanjay Kumar Suman
Member Secretary



JHARKHAND STATE POLLUTION CONTROL BOARD
T.A. DIVISION BUILDING (GROUND FLOOR), H.E.C., DHURWA, RANCHI -834004
Phone.:2400852, 2400851, Fax:0651- 2400850 www.jspcb.org

FORM 2

[See rule 6(2)]

FORM FOR GRANT OR RENEWAL OF AUTHORIZATION BY STATE POLLUTION CONTROL BOARD TO THE OCCUPIERS, RECYCLERS, REPROCESSORS, REUSERS, USER AND OPERATORS OF DISPOSAL FACILITIES

1. No. of authorization and date of issue: JSPCB/HO/RNC/HWM-2107018/2018/37 05/05/2018
2. Reference of application(No. and date): 2107018 17/01/2018
3. Cold Rolling Mills Complex, Bara of Tata Steel Ltd of T V Narendran is hereby granted an authorisation based on the enclosed signed inspection report for generation, collection, reception, storage, transport, reuse, recycling, recovery, pre-processing, co-processing, utilisation, treatment, disposal or any other use of hazardous or other wastes or both on the premises situated at Cold Rolling Mills Complex (CRMC), Bara, Jamshedpur

Details of Authorisation

Sl.No.	Category of Hazardous Waste as per the Schedules I, II and III of these rules	Authorised mode of disposal or recycling or utilisation or co-processing, etc.	Quantity(ton/annum)
1	Used /Spent Oil	Manual	65 T/year
2	Wastes/Residues Containing Oil	Manual	300 T/year
3	Sludge in Liquid	Manual	7000 T/year
4	Sludge in Solid form ARP	Manual	5000 T/year
5	Discarded barrels, container	Manual	50 T/year
6	Sept in exchange resin containing	Manual	0.5 T/year
7	ETP sludge	Manual	300 T/year
8	Oil/ Grease skimming residues	Manual	200/year
9	Filter/ filter materials containing organic liquid	Manual	0.5 T/year

(1) The authorisation shall be valid for a period of 5 years

(2) The authorisation is subject to the following general and specific conditions (Please specify any conditions that need to be imposed over and above general conditions, if any):

A General conditions of authorisation:

1. The authorised person shall comply with the provisions of the Environment (Protection) Act, 1986, and the rules made there under.
2. The authorisation or its renewal shall be produced for inspection at the request of an officer authorised by the State Pollution Control Board.
3. The person authorised shall not rent, lend, sell, transfer or otherwise transport the hazardous and other wastes except what is permitted through this authorisation.
4. Any unauthorised change in personnel, equipment or working conditions as mentioned in the application by the person authorised shall constitute a breach of his authorisation.
5. The person authorised shall implement Emergency Response Procedure (ERP) for which this authorisation is being granted considering all site specific possible scenarios such as spillages, leakages, fire etc. and their possible impacts and also carry out mock drill in this regard at regular interval of time.
6. The person authorised shall comply with the provisions outlined in the Central Pollution Control Board guidelines on “Implementing Liabilities for Environmental Damages due to Handling and Disposal of Hazardous Waste and Penalty”
7. It is the duty of the authorised person to take prior permission of the State Pollution Control Board to close down the facility.
8. The imported hazardous and other wastes shall be fully insured for transit as well as for any accidental occurrence and its clean-up operation.
9. The record of consumption and fate of the imported hazardous and other wastes shall be maintained.
10. The hazardous and other waste which gets generated during recycling or reuse or recovery or pre-processing or utilisation of imported hazardous or other wastes shall be treated and disposed of as per specific conditions of authorisation.
11. The importer or exporter shall bear the cost of import or export and mitigation of damages if any.
12. An application for the renewal of an authorisation shall be made as laid down under these Rules.
13. Any other conditions for compliance as per the Guidelines issued by the Ministry of Environment, Forest and Climate Change or Central Pollution Control Board from time to time.
14. Annual return shall be filed by June 30th for the period ensuring 31st March of the year.

B Specific conditions:

- i. That, the occupier shall comply the provisions of the Environment Protection Act and Rules.
- ii. That, the authorization shall be produced at the time of inspection.
- iii. That, the occupier authorized shall not rent/sell or otherwise transport the H/W without obtaining prior permission of the Board.
- iv. That, any un-authorization change shall constitute a breach the authorization.
- v. That, it is the duty of authorized person to take prior permission of the Board to close down the facility.
- vi. That, the renewal of authorization shall be made as laid down in the rules.
- vii. That, any other condition for compliance as per the guidelines issued by the MoEF for CPCB.
- viii. That, the occupier shall submit annual return for the financial year before 30th June, every year.
- ix. That, the occupier shall comply all the conditions.
- x. That, the occupier shall submit quarterly and annual information on hazardous wastes consumed its source, products generated or resources conserved (specifying the details like type and quantity of resources conserved) to the concerned SPCB.
- xi. That, the occupier shall maintain a Pass Book issued by concerned SPCB wherein the following details of each procurement of SPL shall be entered:
 - Address of sender
 - Date of dispatch
 - Quantity procured
 - Seal & signature of the sender
 - Date of receipt on the premises
- xii. That, the occupier shall have a log book maintained with information on source and date of procurement of SPL, Quantity, date wise utilization of the same, Hazardous Waste generation and its disposal, etc.
- xiii. That, the occupier shall maintain record of Hazardous Waste utilized, Hazardous Waste generated and disposed as per form - 3 and shall file annual returns in form-4 as per Rule 20 (I) and (2) of the Hazardous and other waste (Management & Transboundary Movement) Rules, 2016, to concerned SPCB.
- xiv. That, the occupier shall complied all directions given by standard operating and procedure.

Memo No:JSPCB/HO/RNC/HWM-
2107018/2018/37
Date: 05/05/2018

(Dinesh Prasad Singh)
Section Head, Jamshedpur.

Copy To:

Regional Officer, Regional Office-Cum-Laboratory, Jamshedpur for information and necessary action.

(Dinesh Prasad Singh)
Section Head, Jamshedpur.



JHARKHAND STATE POLLUTION CONTROL BOARD
T.A. DIVISION BUILDING (GROUND FLOOR), H.E.C., DHURWA, RANCHI -834004
Phone.:2400852, 2400851, Fax:0651- 2400850 www. jspcb.org

FORM III
(See Rule 10)
AUTHORISATION

(AUTHORISATION FOR OPERATING A FACILITY FOR COLLECTION, RECEPTION, TREATMENT, STORAGE, TRANSPORT AND DISPOSAL OF BIOMEDICAL WASTES)

1. File no. of authorisation and date of issue: JSPCB/RO/JSR/BMW-7533472/2020/16 16/03/2020
2. M/s CRM BARA FIRST AID CENTRE, CRM BARA, TATA STEEL, Anoop Srivastava an occupier or operator of the facility located at TATA STEEL LIMITED, Jamshedpur is hereby granted an authorisation for:

Generation, segregation	✓	Collection	✓
Storage	✓	Transportation	✓
Reception		Use	
Recycling		Offering for sale	
Packaging	✓	Transfer	
Treatment or Processing or Conversion		Disposal or destruction	
Any other form of handling			

3. M/s CRM BARA FIRST AID CENTRE, CRM BARA, TATA STEEL is hereby authorized for handling of biomedical waste as per the capacity given below:
 - (i) Number of beds of HCF: Non Bedded
 - (ii) Number of health care facilities covered by CBMWTF: Nil
 - (iii) Installed treatment and disposal capacity: Nil
 - (iv) Area or distance covered by CBMWTF: N.A
 - (v) Quantity of Biomedical waste handled, treated or disposed: Yellow- 0.7 Kg/day, Red- 0.2 Kg/d, White- 0.1 Kg/day, Blue- 0.2 Kg/day (BMW Sent to T.M.H. incineration facility)
4. This authorisation shall be in force for a period of One time Years from the date of issue.
5. This authorisation is subject to the conditions stated below and to such other conditions as may be specified in the rules for the time being in force under the Environment (Protection) Act, 1986

Date: 16/03/2020
Place: J.S.P.C.Board, Jamshedpur

(Suresh Paswan)
Regional Officer

Terms and Conditions of Authorisation

1. The authorisation shall comply with the provisions of the Environment (Protection) Act, 1986 and the rules made there under.

2. The authorisation or its renewal shall be produced for inspection at the request of an officer authorised by the prescribed authority.
3. The person authorized shall not rent, lend, sell, transfer or otherwise transport the biomedical wastes without obtaining prior permission of the prescribed authority.
4. Any unauthorised change in personnel, equipment or working conditions as mentioned in the application by the person authorised shall constitute a breach of his authorisation.
5. It is the duty of the authorised person to take prior permission of the prescribed authority to close down the facility and such other terms and conditions may be stipulated by the prescribed authority.

Specific Conditions:

1. The unit should installed auto clave/micro wave or incinerator as per schedule-1 of the rules as attached with.
2. The Bio Medical Waste generated should be segregated according to schedule-II of the Rule.
3. Annual report should be made as per schedule in form-4 of the said Rule.
4. That, he/they shall treat the waste water with the best available technology.
5. The Occupier/operator shall demonstrate the facility of treatment process adopted and capacity of facility during the period of the authorization.
6. That, he/they shall do regular cleaning and wetting of the ground within the premises.
7. The unit shall get registered with the upcoming CBMWTF for Bio Medical Waste disposal as soon as it gets operation.
8. That, he/they shall obtain Q.R.Code of Bio-Medical Waste.

Memo No.: JSPCB/RO/JSR/BMW-7533472/2020/16

Dated:16/03/2020

Copy To:

M/s CRM Bara First Aid Centre, CRM Bara, Tata Steel, At- CRM Bara Complex, Dist East Singhbhum/ Deputy Commissioner, East Singhbhum/Civil Surgeon, East Singhbhum/The Member Secretary, Jharkhand State Pollution Control Board, Ranchi for information.

**(Suresh Paswan)
Regional Officer**

January 31, 2021

Tata Steel Ltd

Tata Steel Ltd One Forbes, 6th Floor, 1 Dr V. B. Gandhi Marg,
Fort, Mumbai, Mumbai, Maharashtra-400001

Pan Card Number : AAAC2803M

Dear Customer,

Sub: Business Public Liability Insurance (Under PLI Act 1991) Policy No: 3133203998726200000

We thank you for having preferred us for your *Insurance* requirements. We at HDFC ERGO General Insurance believe "**Insurance**" as not only to be an assurance to indemnify in the event of unfortunate circumstances, but one that signifies protection and support, which you can count on when you need it most.

The Insurance Policy enclosed herewith is a written agreement providing confirmation of our responsibility towards you that puts insurance coverage into effect against stipulated perils.

Please note that the policy has been issued based on the information contained in the proposal form and / or documents received from you or your representative / broker.

Name of the Intermediary: NA

Intermediary Code: NA

Where the proposal form is not received, information obtained from you or your representative /broker, whether orally or otherwise, is captured in the policy document.

If you wish to contact us in reference to your existing policy and /or other general insurance solutions offered by us, you may write to our correspondence address as mentioned below. Alternatively, you may visit our website www.hdfcergo.com. To enable us to serve you better, you are requested to quote your Policy Number in all correspondences.

Thanking you once again for choosing HDFC ERGO General Insurance Company Limited and looking forward to many more years of association.

Yours sincerely,



Authorised Signatory

Public Liability Insurance (Under PLI Act 1991)

SCHEDULE

Policy No: 3133203998726200000

Item 1. Insured	:	Tata Steel Ltd
Item 2. Producer	:	Not Applicable
Item 3. Financial Interest	:	Not Applicable
Item 4. Mailing address of the Insured	:	Tata Steel Ltd One Forbes, 6th Floor, 1 Dr V. B. Gandhi Marg, Fort, Mumbai, Mumbai, Maharashtra, 400001.
Item 5. Pan Card Number	:	AAACT2803M
Item 6. Business	:	Principally including but not limited to: Manufacture of Steel & Steel related finished products (Coils, Sheets, Billets, Pipes, Tubes, Bearings, Wires, growth shops, Agricultural tools tackles & equipment, etc), By-Products, Ferro Chrome & Ferro Manganese, Chrome Ore, Chrome Concentrate (Beneficiated Chrome Ore), Manganese Ore, Mining & Washing of Coal, Iron Ore & Limestone for captive use & Trading, any other related activities including the new activities taken up during the policy period and supporting activities anywhere in India
Item 7. Policy Period	:	From 00:01 hours : 01 January 2021 To (Midnight) : 31 December 2021
Item 8. Premium	:	Rs. 54,500.00
Item 9. Premium & Coverage Statement	:	Refer to Page 2
9.1 Premium Computation		
9.2 Insurance Limits & Excess		
Item 10. Clauses, Conditions & Warranties :		

Form Number	Form Name	Effective Date	Date Issued
PL-02-0032	Policy Schedule	1 January 2021	31 January 2021
PL-02-0031	Insurance Contract	1 January 2021	31 January 2021

Subject otherwise to terms and conditions of Public Liability Insurance Policy.

Signed for and on behalf of HDFC ERGO General Insurance Company Limited, on 31 January 2021



Authorised Signatory

GST Registration No: 27AABCL5045N1Z8. The contract will be cancelled ab intio in case; the consideration under the policy is not realized.

" The stamp duty of ₹ 0.50 paid by Demand Draft, vide Receipt/Challan no. CSD/362/2020/1302 dated 20/03/2020 as prescribed in Government of Maharashtra Order No. Mudrank-2017/CR.97/M-1, dated the 09th January 2018".

Note: Where the proposal form is not received, information obtained from insured, whether orally or otherwise, is captured in the policy document. Discrepancies, if any, in the information contained in the policy document may be pointed out by an insured within 15 days from