

**Compliance to Conditions stipulated in Environment Clearance for Expansion of steel manufacturing capacity at Jamshedpur Steel works from 4.0 MTPA to 5.0 MTPA, No. J-11011/221/2003 - IA II (I) dated 24.05.2005**

No.	Condition	Compliance Status
<b>Specific Conditions</b>		
i.	The gaseous emissions from various process units should conform to the load/mass based standards notified by this Ministry on 19 <sup>th</sup> May 1993 and standards prescribed from time to time. The State Board may specify more stringent standards for the relevant parameters keeping in view the nature of the industry and its size and location. At no time the emission level should go beyond the prescribed standards. In the event of failure of any pollution control system adopted by the unit, the respective unit should not be restarted until the control measures are rectified to achieve the desired efficiency.	All the existing and new units are provided with adequate pollution control equipment (PCEs) to ensure the emission levels within specific legal requirement.  Please refer <b>Annexure - I</b> for monitoring reports for April 2015 to March 2016.
ii.	As reflected in the EIA/EMP report, the waste water generation shall not exceed from the existing level from various units namely, Sponge iron plant, steel melting shop, rolling mill, rotary hearth furnace. The company shall undertake closed circuit system for the wastewater treatment and the sludge recycled to the sinter plant. The recover and recycling of Susangharia nalla water shall be carried to recycle 800m <sup>3</sup> /hr water. The Jugsalai and Ram Mandir nalla shall be made zero discharge. However, 31300 m <sup>3</sup> /d of treated effluent after confirming to the prescribed standards shall be discharge into Subarnarekha river. The treated waste water to be discharged into the Kharkai river should remain at the existing level of 1364m <sup>3</sup> /d. The domestic waste water after treatment in STP should be used for green belt development	<ul style="list-style-type: none"> <li>• Waste water treatment plants have been provided in all the operating units. The treated water is recycled and reused for various processes within the plant.</li> <li>• The discharge quantity from the works drain is kept within the prescribed standard.</li> <li>• Waste water recovery system has been provided at all the process drains.</li> <li>• Discharges to Subarnarekha River &amp; Kharkai River are confirming to prescribe standards.</li> </ul> Please refer <b>Annexure - I</b> for monitoring reports for April 2015 to March 2016.
iii.	In plant control measures for	To check the fugitive emission in

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	checking fugitive emission from spillage/ raw materials handling should be provided. Further specific measures like provision of dust extraction system at sinter plant, stock house fume extraction system at cast house of blast furnace shall be installed. Particulate emissions shall not exceed 100mg/Nm <sup>3</sup> . Further dedusting facilities at new lime kiln, sinter plant and wet suppression system at raw material bedding and blending plant shall be provided.	raw material handling, dry-fog dust suppression systems are effectively operating. Spillage on the road, along the conveyors, if any, is collected and recycled. ESP and Bag Houses are installed in Sinter Plants. Cast Houses of Blast furnaces are having Fume Extraction System. Lime Kilns have been provided with Bag House. The emissions from the stacks are within specified limits. Please refer <b>Annexure - I</b> for monitoring reports for April 2015 to March 2016.
iv.	The company shall phase out steam coal burning by using by products fuel gas and replace existing wet quenching facility of coke oven battery No.5,6 and 7 by dry quenching to recover energy and reduce CO <sub>2</sub> green house gas emission.	<ul style="list-style-type: none"> <li>• The conversion of all the coal-fired boilers to gas firing in PH # 3, PH#4 &amp; PH # 5 has been completed.</li> <li>• Coke dry quenching facility has been commissioned at battery no. 5, 6 &amp; 7.</li> </ul>
v.	As per the solid waste management plan submitted to the Ministry, about 7268 TPD of solid waste shall be generated. There shall be no generation of boiler ash as BF gas would be used instead of coal. The company shall recycle the BF and LD slag for cement manufacturing, road embankment, construction and filling up of low-lying areas. As per the plan submitted to the Ministry the company shall reuse 100% of BF and LD slag by December 2007.	<ul style="list-style-type: none"> <li>• Tata Steel has been successful in achieving almost complete utilization of most of the solid wastes except LD Slag. Tata Steel has taken a number of initiatives to find increasing usage of LD Slag in construction, road making, soil conditioning and cement making. The initiatives include among others: <ul style="list-style-type: none"> <li>○ Approvals from BIS for use of LD slag in cement making.</li> <li>○ Commercial trials for use of LD slag as soil conditioner.</li> </ul> </li> </ul> <p>Three of four power houses within the Steel Works do not have even provision for firing coal. Only one boiler located at Power House 4 has provision for coal firing in addition to by-product gas firing. Normally this boiler also runs on by-product gas. Only in case of</p>

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		emergency conditions and shortage by-product gas due to disturbance in plant operations, coal firing is done as per the need. The quantity of fly ash generated has reduced drastically which is handled appropriately.
vi.	<p>a. The chrome sludge (251kg/d) generated from the colour coating shall be disposed off in the lined pit within the plant premises and oily sludge (25TPD) shall be incinerated.</p> <p>b. The company shall undertake ground water quality monitoring around the chrome sludge disposal site and data submitted to the Ministry.</p>	<ul style="list-style-type: none"> <li>• Chrome sludge is being disposed off in land filling facility in steel works.</li> <li>• The analysis of ground water is done for chromium content; the values are within prescribed limits.</li> </ul> <p>Please refer <b>Annexure - I</b> for monitoring reports for April 2015 to March 2016.</p>
vii.	A green belt adequate width and density should be developed in an area of 7.0 ha of plant area in addition to the 75 ha of area already afforested within and around the plant premises as per the CPCB guidelines.	<p>We have planted approx. 20,986 saplings during April 2015 to March 2016 inside the works and Jugsalai Muck Dump area and in Township. Every year plantation done in available space. The following plant species are being planted:</p> <ul style="list-style-type: none"> <li>• <i>Ficus, karanj, Cicilipinia, Palm, Ashoka, Mahogany, Caesalpinia Arjun, Sita Ashok, Bakul, Spathodia, Kanchan, Jural, Tabulia, Sissam, Termanelia Sp., Arica palm, foxtail palm, Tecoma, Kannel, Tababia, Ghandhraj, calendra, Tagar, Hemelia, Kamani, Karbi, Calendra etc.</i></li> </ul>
viii.	The company shall undertake rainwater-harvesting measures to harvest the rainwater for utilisation in the lean season as well as to recharge the ground water table.	<ul style="list-style-type: none"> <li>• Rainwater collected from various facilities within the Steel Plant is channelled through surface drains into Cooling Pond. The rainwater thus collected is recycled in the plant.</li> <li>• Rainwater harvesting has been planned and being implemented at suitable locations within the plant.</li> </ul>

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ix.	Occupational Health Surveillance of the workers shall be done on a regular basis and records maintained as per Factories Act.	The health surveillance is being done as per Factory Act. Records are maintained at the Occupational Health Services. Health check up for contractors persons are conducted regularly.
x.	Recommendations made in the CREP shall be implemented.	Tata Steel has implemented the recommendations of CREP.
xi	The company shall carry out life cycle assessment for monitoring to assess the overall environmental improvement of the plant with respect to consumption norms of natural resources and energy and specific norms for waste generation.	Tata Steel had participated in the life cycle assessment conducted with the government agencies.
<b>B. General Conditions</b>		
i.	The project authorities must adhere to the stipulations made by the Jharkhand Environment Conservation Board and the State Government.	All the relevant stipulations made by JSPCB and State Government are being complied.
ii.	No further expansion or modifications in the plant should be carried out without prior approval of the Ministry of Environment and Forests.	Environmental Clearance for the expansion from 6.8 MTPA to 9.7 MTPA Steel Plant was granted vide MoEF letter no. J-11011/691/2007-IA. (II) dated May 11, 2010. Environmental Clearance for the expansion from 9.7 MTPA to 11 MTPA Steel Plant was granted vide MoEF letter no. J-11011/691/2007-IA. (II) dated March 1, 2016.  Necessary Environment Clearance will be taken before any further expansion or modification.
iii.	At least four ambient air quality-monitoring stations should be established in the downward direction as well as where maximum ground level concentration of SPM, SO <sub>2</sub> and Nox are anticipated in consultation with the state pollution Control Board. Data on ambient air quality and	Four Ambient Air Quality Monitoring Stations have been installed. Monitoring data on ambient air quality and stack emission is being submitted regularly to JSPCB. Please refer <b>Annexure - I</b> for monitoring reports for April 2015 to March 2016.

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	stack emission should be regularly submitted to this Ministry including its Regional office at Bhubaneswar and State Pollution Control Board/Central Pollution Control Board once in six months.	
iv.	Industrial wastewater should be properly collected, treated so as to conform to the standards prescribed under GSR 422(E) dated 19 <sup>th</sup> May, 1993 and 31 <sup>st</sup> December, 1993 or as amended form time to time. The treated wastewater should be utilized be for plantation purpose.	<ul style="list-style-type: none"> <li>All wastewater discharges from Steel Works are let out after treating them suitably. The discharge water quality is monitored at all the discharge points</li> </ul> Please refer <b>Annexure - I</b> for monitoring reports for April 2015 to March 2016.
v.	The overall noise level in and around the plant area should be kept well within the standards (85 dBA) by providing noise control measures including acoustic hoods, Silencers, enclosures etc. on all sources of noise generation. The ambient noise levels should conform to the standards prescribed under EPA Rules, 1989 viz. 75 dBA (daytime) and 70 dBA (night time).	<ul style="list-style-type: none"> <li>The noise control measures such as; silencers, enclosures, hoods, rubber pads, have been provided at the required places in the existing plant. The work areas where noise levels are high, earplugs and earmuffs have been provided to the people to minimize noise exposure.</li> <li>The high noise area within the plant have been identified and demarcated. Adequate caution boards are displayed and any one who enters the area is required to wear ear-plugs/ear-muffs.</li> </ul> The noise monitoring is done regularly.
vi.	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 programmes, educational programmes, drinking water supply and health care etc.	Socio economic development activities are regularly undertaken in and around Jamshedpur through the two agencies namely, Tata Steel Rural Development Society and Tata Steel Community Development & Welfare Services Centers. The development activities undertaken in the surrounding community are need based and are in the field of health care, education, mid-day meals in schools, sports and culture, self-



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		employment, drinking water, rural electrification, etc. Tata Steel also facilitate the Institutes like R D Tata Technical Institute, Tata Football Academy, Tata Archery Foundation, etc. which encourages the local talent to develop themselves and participate at National and International levels.
vii.	The project authorities shall provide an amount of Rs 286 crores (question no.xix part b) funds both recurring and non-recurring to implement the conditions stipulated by the Ministry of Environment and Forests as well as the State Government along with the implementation schedule for all the conditions stipulated herein. The funds so provided should not be diverted for any other purposes.	The funds for capital investment on pollution control equipment were not diverted. The 5 MTPA project has been completed. All the pollution control equipment have been commissioned and are being operated and maintained regularly.
vii.	The Regional Office of this Ministry at Bhubaneswar/ Central Pollution Control Board/State Pollution Control Board will monitor the stipulated conditions. A six monthly compliance report and the monitored data along with statistical interpretation should be submitted to them regularly.	Six monthly compliance reports and the monitored data are being submitted regularly. Please refer <b>Annexure - I</b> for monitoring reports for April 2015 to March 2016.
ix.	The Project Proponent should inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the State Pollution Control Board/ Committee and may also be seen at Website of the Ministry of Environment and Forests at <a href="http://envfor.nic.in">http://envfor.nic.in</a> . This should be advertised within seven days from the date of issue of the clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned	The Notice has been advertised in two local newspapers viz. Chamkta Aaina (Hindi) and The Avenue Mail (English) on June 04, 2005 and communication to this effect was also sent to the MoEF.

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	and a copy of the same should be forwarded to the regional office.	
x.	The 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.	It has been complied as the project has already been completed.