

| <b>A</b> | <b>SPECIFIC CONDITIONS for enhancement of (3,20,000TPA to 3,45,000TPA) Pig Iron :</b>  |               |                                       |                                      |  |  |  |
|----------|--|---------------|---------------------------------------|--------------------------------------|--|--|--|
| i.       | On-line stack monitoring facilities for all the stacks and sufficient air pollution control equipments viz gas cleaning system, dust catcher, bag filters etc. shall be provided to control emissions from the blast furnace below 100 mg/Nm <sup>3</sup> .  |               |                                       |                                      |  |  |  |
| Com      | On line stack monitoring facility has installed in all three stacks. Data logger system also be put up into line within Sept 2013.   |               |                                       |                                      |  |  |  |
| ii.      | In-plant control measures for checking fugitive emissions from all the vulnerable sources shall be provided. Dust extraction system with bag filters shall be provided at material handling areas, crushers, hoppers, vibratory screens, transfer points etc. All the conveyors shall be covered with GI sheets to prevent fugitive emissions. Further, specific measures like water sprinkling around the coal stockpiles and asphaltting or concreting of the roads shall be done to control fugitive emissions. |               |                                       |                                      |  |  |  |
| Com      | Main charging conveyor, all vibrating screens and the transfer points of other conveyors have been covered with GI sheets. Regular mobile water spraying in the plant area and asphaltting/concreting of about 75% of the road has been completed, to control fugitive emissions. Dry fog system commissioned in both RMHS at ground hopper and transfer hopper.   |               |                                       |                                      |  |  |  |
| iii.     | Data on ambient air quality, stack emissions and fugitive emissions shall be regularly uploaded on the website of the company and submitted on-line to the Ministry's Regional Office at Bhubaneswar, West Bengal Pollution Control Board (WBPCB) and Central Pollution Control Board (CPCB) as well as hard copy once in six months. Data on SPM, SO <sub>2</sub> and NO <sub>x</sub> shall also be displayed outside the premises at the appropriate place for the general public.                               |               |                                       |                                      |  |  |  |
| Com      | Please See annexure E  |               |                                       |                                      |  |  |  |
| iv.      | Secondary fugitive emissions from all the sources shall be controlled within the latest permissible limits issued by the Ministry and regularly monitored. Guidelines / Code of Practice issued by the CPCB shall be followed.   |               |                                       |                                      |  |  |  |
| Com      | Area   | Month         | SPM (mg/m <sup>3</sup> )<br>Limit- 10 | RPM (mg/m <sup>3</sup> )<br>Limit- 5 | SO <sub>2</sub> (mg/m <sup>3</sup> )<br>Limit- 5 | NO <sub>2</sub> (mg/m <sup>3</sup> )<br>Limit- 6 |  |
|          | Cast House   | December 2012 | 1.000                                 | 0.375                                | 0.032  | 0.050  |  |
|          | Bunker House   |               | 1.350                                 | 0.275                                | 0.035  | 0.053  |  |
|          | SPCM   |               | 1.229                                 | 0.312                                | 0.031  | 0.046  |  |
| v.       | Efforts shall be made to reduce impact of the transport of the raw materials and end products on the surrounding environment including agricultural land. Vehicular emissions should be regularly monitored.   |               |                                       |                                      |  |  |  |
| Com      | Raw material mainly transported through railway wagon. Only vehicles having proper Vehicular Emission Certificate are allowed to enter the plant premises.   |               |                                       |                                      |  |  |  |
| vi.      | Effluent Treatment Plant (ETP) shall be installed for the treatment of process water. All the wastewater generated shall be treated, recycled and reused either in the process or for dust suppression, green belt development and various other activities at the site. No wastewater shall be discharged outside the factory premises and 'Zero' discharge shall be adopted.   |               |                                       |                                      |  |  |  |
| Com      | All waste water generated from different processes are collected in a pond and is recycled for slag granulation & pig quenching purposes. Average running hours of the pump, having capacity of 20 m <sup>3</sup> / hr is 16 hrs /day.   |               |                                       |                                      |  |  |  |
| vii.     | The company shall obtain the permission for drawl of ground water from CGWA/CGWB.  |               |                                       |                                      |  |  |  |
| Com      | Complied   |               |                                       |                                      |  |  |  |

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| viii. | The solid materials collected from pollution control equipment shall be suitably stored and supplied to nearby pig iron/steel plant having sinter plant. The project authorities shall make the agreement with user of Coke, coal fines and iron ore fines and copy of the agreement shall be submitted to Ministry's Regional Office at Bhubaneshwar. Used oil shall be sold to recyclers and reprocessors only. |
| Com   | Solid waste {Iron Ore fines (approx 15871Ton) / Coke fines (4318 Ton)} are sold to outside agencies in 2012-2013. Used oils (8050 kg) also sold to certified re-processing agencies only from 1 <sup>st</sup> April 2012 to 31 <sup>st</sup> March 2013   |
| ix    | The blast furnace slag shall be granulated and sold to the cement manufacturing units for further utilization. All the other solid waste including broken refractory mass shall be properly disposed off in environment-friendly manner. A time bound action plan shall be submitted to reduce solid waste, its proper utilization and disposal. .  |
| Com   | 126095.48 MT granulated Slag sold to outside agency in Fy 12-13*.   |
| x     | Green belt shall be developed in 33 % area in and around the plant as per the CPCB guidelines in consultation with DFO.   |
| Com   | 3200 nos tree & shrubs planted on 2012-2013.Total plant area-197 acre & greenery developed area are approx 66 acre (33%).   |
| xi.   | All the recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the steel sector shall be strictly implemented.   |
| Com   | Tata Steel Group of Companies, as a whole are taking necessary initiatives to adhere to the CREP recommendations.   |
| xii   | 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.   |
|       | Increase in production capacity is mainly on account of improved operations / process improvement resulting in 'Enhancement of Production' and hence it is not an Expansion Project. Thus these requirements are not applicable in the present instance.  |

|     |   |
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|     | <b>GENERAL CONDITIONS for enhancement of (3,20,000TPA to 3,45,000TPA) Pig Iron :</b>  |
| i   | The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board (SPCB) and the State Government.   |
|     | Increase in production capacity is mainly on account of improved operations / process improvement resulting in 'Enhancement of Production' and hence it is not an Expansion Project. Thus these requirements are not applicable in the present instance.  |
| ii  | No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment and Forests.  |
| Com | Noted for future compliance.  |
| 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 Pollution Control Board (SPCB) 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. |
| Com | Noted for compliance.   |
| iv  | At least four ambient air quality monitoring stations shall be established in the downward direction as well as where maximum ground level concentration of SPM, SO <sub>2</sub> and NO <sub>x</sub> are anticipated in   |

|       | consultation with the SPCB. Data on ambient air quality and stack emission shall be regularly submitted to this Ministry including its Regional Office and the SPCB / CPCB once in six months.  |                     |                       |                     |              |                          |                               |                   |            |     |               |            |     |                  |            |    |   |                          |     |   |                  |    |
|-------|---|---------------------|-----------------------|---------------------|--------------|--------------------------|-------------------------------|-------------------|------------|-----|---------------|------------|-----|------------------|------------|----|---|--------------------------|-----|---|------------------|----|
| Com   | Please See annexure E   |                     |                       |                     |              |                          |                               |                   |            |     |               |            |     |                  |            |    |   |                          |     |   |                  |    |
| v     | In-plant control measures for checking fugitive emissions from all the vulnerable sources shall be provided. Further, specific measures like water sprinkling around the coal stockpiles and asphaltting or concreting of the roads shall be done to control fugitive emissions.  |                     |                       |                     |              |                          |                               |                   |            |     |               |            |     |                  |            |    |   |                          |     |   |                  |    |
| Com   | Regular mobile water spraying(12000l/day)in the plant area and asphaltting/concreting of about 75% of the road has been completed, to control fugitive emissions.   |                     |                       |                     |              |                          |                               |                   |            |     |               |            |     |                  |            |    |   |                          |     |   |                  |    |
| vi    | Industrial wastewater shall be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19th May, 1993 and 31st December, 1993 or as amended form time to time. The treated wastewater shall be utilized for plantation purpose.  |                     |                       |                     |              |                          |                               |                   |            |     |               |            |     |                  |            |    |   |                          |     |   |                  |    |
| Com   | All waste water generated from different processes are collected in a pond and is recycled for slag granulation & pig quenching purposes. Average running hours of the pump, having capacity of 20 m <sup>3</sup> / hr is 16 hrs /day.  |                     |                       |                     |              |                          |                               |                   |            |     |               |            |     |                  |            |    |   |                          |     |   |                  |    |
| vii   | 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 shall conform to the standards prescribed under EPA Rules, 1989 viz. 75 dBA (day time) and 70 dBA (night time).  |                     |                       |                     |              |                          |                               |                   |            |     |               |            |     |                  |            |    |   |                          |     |   |                  |    |
| Com   | <b>The overall noise levels in and around the plant area is within the standards (75 dBA).<br/>Date of sampling :-20<sup>th</sup> December 2012</b>   |                     |                       |                     |              |                          |                               |                   |            |     |               |            |     |                  |            |    |   |                          |     |   |                  |    |
|       | <table border="1"> <thead> <tr> <th>Sl no</th> <th>Area / Location</th> <th>Ambient Limit (dBA)</th> <th>Result (dBA)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>ADM Building (Near Main Gate)</td> <td rowspan="3">75 dBA (day time)</td> <td>55.2- 58.1</td> </tr> <tr> <td>2</td> <td>Material Gate</td> <td>63.2- 65.1</td> </tr> <tr> <td>3</td> <td>Near Cycle Stand</td> <td>60.1- 64.5</td> </tr> </tbody> </table>  | Sl no               | Area / Location       | Ambient Limit (dBA) | Result (dBA) | 1                        | ADM Building (Near Main Gate) | 75 dBA (day time) | 55.2- 58.1 | 2   | Material Gate | 63.2- 65.1 | 3   | Near Cycle Stand | 60.1- 64.5 |    |   |                          |     |   |                  |    |
| Sl no | Area / Location   | Ambient Limit (dBA) | Result (dBA)          |                     |              |                          |                               |                   |            |     |               |            |     |                  |            |    |   |                          |     |   |                  |    |
| 1     | ADM Building (Near Main Gate)   | 75 dBA (day time)   | 55.2- 58.1            |                     |              |                          |                               |                   |            |     |               |            |     |                  |            |    |   |                          |     |   |                  |    |
| 2     | Material Gate   |                     | 63.2- 65.1            |                     |              |                          |                               |                   |            |     |               |            |     |                  |            |    |   |                          |     |   |                  |    |
| 3     | Near Cycle Stand  |                     | 60.1- 64.5            |                     |              |                          |                               |                   |            |     |               |            |     |                  |            |    |   |                          |     |   |                  |    |
| viii  | Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.   |                     |                       |                     |              |                          |                               |                   |            |     |               |            |     |                  |            |    |   |                          |     |   |                  |    |
| Com   | <p style="text-align: center;">OCCUPATIONAL HEALTH CHECK-UP 2012-13</p> <table border="1"> <thead> <tr> <th>Sl no</th> <th>Name of Investigation</th> <th>No Of Employees</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Blood Test (TC, DC, Hb%)</td> <td>201</td> </tr> <tr> <td>2</td> <td>Audiometry</td> <td>170</td> </tr> <tr> <td>3</td> <td>P. F. T.</td> <td>201</td> </tr> <tr> <td>4</td> <td>Eye Test</td> <td>28</td> </tr> <tr> <td>5</td> <td>Physical Health Check-Up</td> <td>193</td> </tr> <tr> <td>6</td> <td>Blood sugar test</td> <td>85</td> </tr> </tbody> </table> | Sl no               | Name of Investigation | No Of Employees     | 1            | Blood Test (TC, DC, Hb%) | 201                           | 2                 | Audiometry | 170 | 3             | P. F. T.   | 201 | 4                | Eye Test   | 28 | 5 | Physical Health Check-Up | 193 | 6 | Blood sugar test | 85 |
| Sl no | Name of Investigation   | No Of Employees     |                       |                     |              |                          |                               |                   |            |     |               |            |     |                  |            |    |   |                          |     |   |                  |    |
| 1     | Blood Test (TC, DC, Hb%)  | 201                 |                       |                     |              |                          |                               |                   |            |     |               |            |     |                  |            |    |   |                          |     |   |                  |    |
| 2     | Audiometry  | 170                 |                       |                     |              |                          |                               |                   |            |     |               |            |     |                  |            |    |   |                          |     |   |                  |    |
| 3     | P. F. T.  | 201                 |                       |                     |              |                          |                               |                   |            |     |               |            |     |                  |            |    |   |                          |     |   |                  |    |
| 4     | Eye Test  | 28                  |                       |                     |              |                          |                               |                   |            |     |               |            |     |                  |            |    |   |                          |     |   |                  |    |
| 5     | Physical Health Check-Up  | 193                 |                       |                     |              |                          |                               |                   |            |     |               |            |     |                  |            |    |   |                          |     |   |                  |    |
| 6     | Blood sugar test  | 85                  |                       |                     |              |                          |                               |                   |            |     |               |            |     |                  |            |    |   |                          |     |   |                  |    |
| ix    | The company shall develop rain water harvesting structures to harvest the rain water for utilization in the lean season besides recharging the ground water table.  |                     |                       |                     |              |                          |                               |                   |            |     |               |            |     |                  |            |    |   |                          |     |   |                  |    |
|       | Pond for accumulation of rain water is already in place.  |                     |                       |                     |              |                          |                               |                   |            |     |               |            |     |                  |            |    |   |                          |     |   |                  |    |
| x     | 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. Suggestions made during the public hearing shall be implemented.   |                     |                       |                     |              |                          |                               |                   |            |     |               |            |     |                  |            |    |   |                          |     |   |                  |    |
|       |   |                     |                       |                     |              |                          |                               |                   |            |     |               |            |     |                  |            |    |   |                          |     |   |                  |    |
|       |   |                     |                       |                     |              |                          |                               |                   |            |     |               |            |     |                  |            |    |   |                          |     |   |                  |    |
| Com   | Community development activities are ingrained in the working of the Company.<br>Community development programme (2012-2013)  |                     |                       |                     |              |                          |                               |                   |            |     |               |            |     |                  |            |    |   |                          |     |   |                  |    |
|       | <table border="1"> <thead> <tr> <th>Sl No</th> <th>Activity</th> <th>No of cases</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> </tr> </tbody> </table>   | Sl No               | Activity              | No of cases         |              |                          |                               |                   |            |     |               |            |     |                  |            |    |   |                          |     |   |                  |    |
| Sl No | Activity  | No of cases         |                       |                     |              |                          |                               |                   |            |     |               |            |     |                  |            |    |   |                          |     |   |                  |    |
|       |   |                     |                       |                     |              |                          |                               |                   |            |     |               |            |     |                  |            |    |   |                          |     |   |                  |    |

|      |   |   |  |
|------|---|---|--|
|      | 1   | NUTRITIONAL SURVEY & HEALTH CHECK-UP CAMP FOR STUDENTS OF PRIMARY SCHOOLS | 133 nos of Student were examined   |
|      | 2   | Blood donation camp   | 129 Personnel  |
|      | 3   | HIV / AIDS AWARENESS PROGRAMME  | 220 nos persons including employee, truck drivers and helpers were present.                                |
|      | 4   | Maternal & child health awareness programme                               | 30 (women)appx.  |
|      | 5   | Self Employment Generation by making of Vermi Compose                     | 275 kgs of vermicompost have been produced by Self help group (Sidhu Kanu Birsha) at kunjia chack village. |
| xi   | Adequate fund shall be earmarked towards capital cost and recurring cost/annum for environment pollution control measures and shall be judiciously utilized to implement the conditions stipulated by the Ministry of Environment and Forests as well as the State Government. The funds so provided shall not be diverted for any other purpose.   |   |  |
| Com  | Though the enhancement in production capacity, is not in the form of a Project, Company regularly allocates funds for pollution control measures / monitoring & CSR activities. Company also ensures utilization of funds for allocated purposes.   |   |  |
| xii  | The Regional Office of this Ministry / CPCB / SPCB shall monitor the stipulated conditions. A six monthly compliance report and the monitored data along with statistical interpretation shall be submitted to them regularly.  |   |  |
| Com  | Noted for compliance.   |   |  |
| xiii | The Project Proponent shall inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the SPCB and may also be seen at Website of the Ministry of Environment and Forests at <a href="http://envfor.nic.in">http://envfor.nic.in</a> . This shall be advertised within seven days from the date of issue of the clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same shall be forwarded to the Regional office. |   |  |
| Com  | Noted for compliance.   |   |  |
| xiv  | 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.  |   |  |
| Com  | Enhancement in Production capacity has been achieved by way of process modification and not by way of a Project.  |   |  |

Annexure E

**Date Of Sampling:- 20<sup>th</sup> December to 21<sup>st</sup> December 2012.**

Ambient PM<sub>10</sub> Level

| Sl | Area / Location   | Limit ( $\mu\text{g}/\text{m}^3$ ) | Result - ( $\mu\text{g}/\text{m}^3$ ) |
|----|-------------------|------------------------------------|---------------------------------------|
| 1  | Near ADM Building | 100                                | 61.74 (Avg)                           |
| 2  | Near Guest House  |                                    | 64.87 (Avg)                           |

Ambient SO<sub>2</sub> Level

| Sl | Area / Location   | Limit ( $\mu\text{g}/\text{m}^3$ ) | Result - ( $\mu\text{g}/\text{m}^3$ ) |
|----|-------------------|------------------------------------|---------------------------------------|
| 1  | Near ADM Building | 80                                 | 17.09 (Avg)                           |
| 2  | Near Guest House  |                                    | 19.45 (Avg)                           |

Ambient NO<sub>2</sub> Level

| Sl | Area / Location   | Limit ( $\mu\text{g}/\text{m}^3$ ) | Result - ( $\mu\text{g}/\text{m}^3$ ) |
|----|-------------------|------------------------------------|---------------------------------------|
| 1  | Near ADM Building | 80                                 | 40.83 (Avg)                           |
| 2  | Near Guest House  |                                    | 39.39 (Avg)                           |

Particulate Matter – **Date Of Sampling:- 20<sup>th</sup> December 2012.**

| Sl | Process attached to stack | Limit - $\text{mg}/\text{Nm}^3$ | Result |
|----|---------------------------|---------------------------------|--------|
| 1  | Boiler Stack              | 100                             | 40     |
| 2  | Stove Stack for MBF-1     |                                 | 42     |
| 3  | Stove Stack for MBF-2     |                                 | 35     |
| 4  | DG Set-1                  | 150                             | 81     |
| 5  | DG Set-2                  |                                 | 73     |
|    |                           |                                 |        |