

**Ministry of Environment, Forest and Climate Change  
Impact Assessment Division  
(Industry-1 Sector)**

**Date of zero draft MoM sent to Chairman: 16/11/2021**

**Approval by Chairman: 23/11/2021**

**Uploading on PARIVESH: 23/11/2021**

**Summary record of the forty eighth (48<sup>th</sup>) meeting of Re-Constituted Expert Appraisal Committee (REAC) held on 11-12<sup>th</sup> November, 2021 for environment appraisal of Industry-1 sector projects constituted under the provisions of Environment Impact Assessment (EIA) Notification, 2006.**

The forty eighth meeting of the Expert Appraisal Committee (EAC) for Industry-1 Sector constituted as per the provisions of the EIA Notification, 2006 for Environment Appraisal of Industry-1 Sector Projects was held on **11-12<sup>th</sup> November, 2021** in the Ministry of Environment, Forest and Climate Change (MoEF&CC) through **video conferencing** in view of the ongoing Corona Virus Disease (Covid-19) pandemic. The list of EAC attendees is as follows:

| S. No.                            | Name                               | Position            | 11/11/2021    | 12/11/2021    |
|-----------------------------------|------------------------------------|---------------------|---------------|---------------|
| 1.                                | Dr. Chhavi Nath Pandey             | Chairman            | Present       | Present       |
| 2.                                | Dr. M.K.Gupta,<br>Director, CPPRI. | Member              | <i>Absent</i> | Present       |
| 3.                                | Dr. Siddharth Singh,               | Member              | Present       | Present       |
| 4.                                | Dr. Jagdish Kishwan                | Member              | Present       | Present       |
| 5.                                | Dr. Tejaswini Ananth<br>Kumar      | Member              | <i>Absent</i> | Present       |
| 6.                                | Dr. G.V. Subramanyam               | Member              | Present       | Present       |
| 7.                                | Shri. Ashok Upadhyaya              | Member              | Present       | Present       |
| 8.                                | Shri. Rajendra Prasad<br>Sharma    | Member              | Present       | Present       |
| 9.                                | <i>Dr. Sanjay Deshmukh</i>         | <i>Member</i>       | <i>Absent</i> | <i>Absent</i> |
| 10.                               | Prof. S.K. Singh                   | Member              | <i>Absent</i> | Present       |
| 11.                               | <i>Dr. R. Gopichandran</i>         | <i>Member</i>       | <i>Absent</i> | <i>Absent</i> |
| 12.                               | Shri Jagannadha Rao<br>Avasarala   | Member              | Present       | Present       |
| 13.                               | Shri. J.S. Kamyotra                | Member              | Present       | Present       |
| <b>Officials from MoEF&amp;CC</b> |                                    |                     |               |               |
| 14.                               | Shri. Sundar Ramanathan            | Member<br>Secretary | Present       | Present       |
| 15.                               | Dr. Vipin Gupta                    | Scientist 'B'       | Present       | Present       |

After welcoming the Committee Members, discussion on each of the agenda items was taken up. The minutes of 47<sup>th</sup> meeting held during 28-29<sup>th</sup> October, 2021 were confirmed by the EAC as already uploaded on PARIVESH.

**11<sup>th</sup> November, 2021**

48.1 Expansion of existing facilities with addition of 2x300 TPD DRI Kiln and CPP (WHRB from 22 to 30 MW and CFBC 40 MW) within the existing plant Integrated Steel Plant premises by **M/s. SMC Power Generation Limited** located at Industrial Growth Centre, Village Kukurjangha, P.O. Badmal, Tehsil: Jharsuguda, **District Jharsuguda, Odisha** [Online Proposal No. IA/OR/IND/234628/2021, File No. IA-J-11011/189/07-IA.II(I)] – **Environment Clearance (As per provision contained in MoEF&CC notification S.O. 1247 (E) dated 18/03/2021) – regarding.**

48.1.1 M/s. SMC Power Generation Limited has made an online application vide proposal no. IA/OR/IND/234628/2021 dated 25/10/2021 along with copy of EIA/EMP report and Form - 2 seeking Environment Clearance (EC) under the provisions of the EIA Notification, 2006 for the project mentioned above. The proposed project activity is listed at schedule no. 3(a) Metallurgical Industries (Ferrous and Non-ferrous), 1(d) Thermal Power Plants under Category “A” of the schedule of the EIA Notification, 2006 and appraised at Central Level.

**Details submitted by Project proponent**

48.1.2 The details of the ToR are furnished as below:

| <b>Date of application</b> | <b>Consideration</b>   | <b>Details</b>      | <b>Date of accord</b> |
|----------------------------|--|---------------------|-----------------------|
| 12/05/2021                 | 37 <sup>th</sup> meeting of EAC held on 31 <sup>st</sup> May- 1 <sup>st</sup> June 2021. | Terms of Reference* | 14/06/2021            |

*Note: \* - Public hearing was waived off by the EAC as per the provision contained in MoEF&CC notification S.O. 1247 (E) dated 18/03/2021*

48.1.3 Environment Clearance (EC) for the project cited above was originally accorded by the Ministry vide letter no. J-11011/189/2007- IA.II (I) dated 07/08/2007 in the name of M/s. SPS Steel & Power Ltd. under the provisions of the EIA Notification, 2006. Subsequently, the company name has been changed from M/s. SPS Steel & Power Ltd to M/s. Concast Steel & Power Limited during 2011 consequent upon taking over entire shares of M/s. SPS Steel & Power Ltd and certificate of incorporation issued by the Registrar of Companies regarding change of company name from M/s. SPS Steel & Power Ltd and M/s. Concast Steel & Power Limited. However, M/s. Concast Steel & Power Limited was unable to continue the implementation of facilities due to financial crisis. Subsequently, the company went through Corporate Insolvency and Resolution Process (CIRP) and bought by M/s. SMC Power Generation Limited. In addition to the facilities envisaged under the EC dated 7/08/2007, M/s. SMC Power Generation Limited has merged the 2x100 TPD DRI kiln owned and operated by M/s. Pawansuit Sponge private limited based on the Order dated 19/2/2010 of Hon’ble High Court of Odisha in case no 78 of 2009. It is noted from the records that CTE for the 2x100 TPD kiln was accorded by Odisha Pollution Control Board (OPCB) on 27/03/2004. Hence, EC is not required for the 2x100 TPD kiln as it was established prior to the EIA notification dated 14/09/2006.

48.1.4 The project proponent vide proposal no. IA/OR/IND/171284/2020 dated 14/10/2020 sought for transfer of EC dated 7/08/2007 in the name of M/s. SMC Power Generation Limited. Accordingly, the EC transfer was accorded by the Ministry on 24/12/2020 only for the commissioned facilities within the EC validity period and for the remaining facilities, project proponent was asked to apply for fresh Environment Clearance under the

provisions of EIA, 2006. The details of the units commissioned by the proponent are furnished as below:

| S No | Facilities   | Facilities as per EC granted                    | Facilities amalgamated from M/s. Pawansuit Sponge private limited | Facilities implemented and Operational  | Facilities Constructed within the validity period of E C, i.e. 6/8/2012 but not implemented with CTO |
|------|--|---|---|---|--|
| 1    | DRI Kiln (Sponge Iron)   | 6 x 100 TPD<br>2 x 300 TPD                      | 2 x 100 TPD   | 6 x 100 TPD<br>2 x 100 TPD  | 2x300 TPD  |
| 2    | SMS for 2,82,000 TPA Billets & 40 T EAF for 2,50,000 TPA Steel Plant | 4 x 20 T IF and 40 T EAF (4,26,000 TPA Billets) | -   | 4x20T IF (2,80,000 TPA Billets)   | -  |
| 3    | Blast Furnace  | 1 x 450 CUM                                     | -   | 1 x 450 CUM   | -  |
| 4    | Sinter Plant   | 6,00,000 TPA                                    | -   | 6,00,000 TPA  | -  |
| 5    | Rolling Mill   | 1,00,000 TPA                                    | -   | 1,00,000 TPA  | -  |
| 6    | Ferro Chrome / Ferro MG  | 4 x 16 MVA                                      | -   | 2 x 16 MVA  | -  |
| 7    | Captive Power Plant  | 30 MW WHRB                                      | -   | 22 MW implemented and Operational for 6x100 TPD DRI & 2x100 TPD DRI (of PSPL) | Facilities for 8 MW Constructed but Not Commissioned for 2x300 TPD DRI                               |
|      |  | 40 MW CFBC                                      | -   | -   | Constructed but Not Commissioned for the whole 40 MW   |
| 8    | Coal Washery   | 1,00,000 TPA                                    | -   | -   | -  |

The company started its production on 21/03/2021 after obtaining CTO from OPCB. The facilities yet to be commissioned by the proponent are as below:

| S No | Facilities                       | Status of Construction during EC Validity Period | Status of Commissioning of the Facility within the EC Validity Period                           |
|------|----------------------------------|--|---|
| 1    | DRI Kilns 2x300 TPD              | More than 50 % by 06/08/2012                     | Not Commissioned  |
| 2    | 30 MW Captive Power Plant (WHRB) | Completed on 06/08/2012                          | Commissioned for 6x100 TPD DRI & 2x100 TPD DRI (of PSPL) But Not Commissioned for 2x300 TPD DRI |
| 3    | 40 MW Captive Power Plant (CFBC) | Completed on 06/08/2012                          | Not Commissioned  |

48.1.5 Instant proposal of PP is for seeking fresh EC to complete the commissioning of the constructed facilities as per MoEF&CC notification S.O. 1247 (E) dated 18/03/2021 which

states that “where construction and commissioning of proposed activities have not been completed within the validity period of the Environmental Clearance (EC) and a fresh application for EC has been submitted due to expiry of the said period of the EC, the concerned Expert Appraisal Committee or State Level Expert Committee, as the case may be, may exempt the requirement of public hearing subject to the condition that the project has been implemented not less than fifty percentage in its physical form or construction”.

48.1.6 The project of M/s. SMC Power Generation Limited is located at Industrial Growth Centre, Village Kukurjangha, P.O. Badmal, Tehsil: Jharsuguda, District Jharsuguda, Odisha is for Expansion of existing facilities with addition of 2x300 TPD DRI Kiln and CPP (WHRB from 22 to 30 MW and CFBC 40 MW) within the existing plant Integrated Steel Plant premises.

48.1.7 Environmental Site Settings:

| SNo   | Particulars  | Details  | Remarks  |            |             |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |    |                           |                            |    |                           |                            |    |                           |                            |    |                           |                            |  |
|-------|--|--|--|------------|-------------|---|---------------------------|----------------------------|---|---------------------------|----------------------------|---|---------------------------|----------------------------|---|---------------------------|----------------------------|---|---------------------------|----------------------------|---|---------------------------|----------------------------|---|---------------------------|----------------------------|---|---------------------------|----------------------------|---|---------------------------|----------------------------|----|---------------------------|----------------------------|----|---------------------------|----------------------------|----|---------------------------|----------------------------|----|---------------------------|----------------------------|--|
| i     | Total land   | <b>79.40 ha.</b> Through Odisha Industrial Infrastructure Development Corporation Limited (IDCO).  | Land use: Existing Industrial  |            |             |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |    |                           |                            |    |                           |                            |    |                           |                            |    |                           |                            |  |
| ii    | Land acquisition details as per MoEF& CC O. M. dated 7/10/2014 | The proposed expansion comes within existing 79.40 ha area and not required additional land for proposed expansion. The Complete land is already acquired by M/s CONCAST Steel & Power Limited. The said land is in process of being transferred in favor of M/s. SMC Power Limited through IDCO, a Govt. of Odisha Undertaking.   | The leasehold transfer letter of the liquidator submitted at IDCO, Odisha on March 03, 2020. |            |             |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |    |                           |                            |    |                           |                            |    |                           |                            |    |                           |                            |  |
| iii   | Existence of habitation & involvement of R & R, if any.        | There is no habitation within the project area.  |  |            |             |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |    |                           |                            |    |                           |                            |    |                           |                            |    |                           |                            |  |
| iv    | Latitude and Longitude of the project site                     | <p><b>Coordinates of Boundary Pillars Points of the Company Premises Area 183.04 Acres at North of IDCO Road</b></p> <table border="1"> <thead> <tr> <th>Point</th> <th>Latitude N</th> <th>Longitude E</th> </tr> </thead> <tbody> <tr><td>1</td><td>21<sup>0</sup> 49' 3.03"</td><td>83<sup>0</sup> 59' 30.38"</td></tr> <tr><td>2</td><td>21<sup>0</sup> 49' 3.17"</td><td>83<sup>0</sup> 59' 31.00"</td></tr> <tr><td>3</td><td>21<sup>0</sup> 49' 2.74"</td><td>83<sup>0</sup> 59' 32.76"</td></tr> <tr><td>4</td><td>21<sup>0</sup> 49' 2.29"</td><td>83<sup>0</sup> 59' 33.94"</td></tr> <tr><td>5</td><td>21<sup>0</sup> 49' 1.89"</td><td>83<sup>0</sup> 59' 35.31"</td></tr> <tr><td>6</td><td>21<sup>0</sup> 49' 0.96"</td><td>83<sup>0</sup> 59' 39.48"</td></tr> <tr><td>7</td><td>21<sup>0</sup> 49' 2.94"</td><td>83<sup>0</sup> 59' 44.43"</td></tr> <tr><td>8</td><td>21<sup>0</sup> 49' 4.65"</td><td>83<sup>0</sup> 59' 46.50"</td></tr> <tr><td>9</td><td>21<sup>0</sup> 49' 6.53"</td><td>83<sup>0</sup> 59' 50.45"</td></tr> <tr><td>10</td><td>21<sup>0</sup> 49' 6.80"</td><td>83<sup>0</sup> 59' 50.74"</td></tr> <tr><td>11</td><td>21<sup>0</sup> 49' 6.82"</td><td>83<sup>0</sup> 59' 51.05"</td></tr> <tr><td>12</td><td>21<sup>0</sup> 49' 7.13"</td><td>83<sup>0</sup> 59' 51.38"</td></tr> <tr><td>13</td><td>21<sup>0</sup> 49' 8.38"</td><td>83<sup>0</sup> 59' 53.25"</td></tr> </tbody> </table> | Point  | Latitude N | Longitude E | 1 | 21 <sup>0</sup> 49' 3.03" | 83 <sup>0</sup> 59' 30.38" | 2 | 21 <sup>0</sup> 49' 3.17" | 83 <sup>0</sup> 59' 31.00" | 3 | 21 <sup>0</sup> 49' 2.74" | 83 <sup>0</sup> 59' 32.76" | 4 | 21 <sup>0</sup> 49' 2.29" | 83 <sup>0</sup> 59' 33.94" | 5 | 21 <sup>0</sup> 49' 1.89" | 83 <sup>0</sup> 59' 35.31" | 6 | 21 <sup>0</sup> 49' 0.96" | 83 <sup>0</sup> 59' 39.48" | 7 | 21 <sup>0</sup> 49' 2.94" | 83 <sup>0</sup> 59' 44.43" | 8 | 21 <sup>0</sup> 49' 4.65" | 83 <sup>0</sup> 59' 46.50" | 9 | 21 <sup>0</sup> 49' 6.53" | 83 <sup>0</sup> 59' 50.45" | 10 | 21 <sup>0</sup> 49' 6.80" | 83 <sup>0</sup> 59' 50.74" | 11 | 21 <sup>0</sup> 49' 6.82" | 83 <sup>0</sup> 59' 51.05" | 12 | 21 <sup>0</sup> 49' 7.13" | 83 <sup>0</sup> 59' 51.38" | 13 | 21 <sup>0</sup> 49' 8.38" | 83 <sup>0</sup> 59' 53.25" |  |
| Point | Latitude N   | Longitude E  |  |            |             |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |    |                           |                            |    |                           |                            |    |                           |                            |    |                           |                            |  |
| 1     | 21 <sup>0</sup> 49' 3.03"                                      | 83 <sup>0</sup> 59' 30.38"   |  |            |             |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |    |                           |                            |    |                           |                            |    |                           |                            |    |                           |                            |  |
| 2     | 21 <sup>0</sup> 49' 3.17"                                      | 83 <sup>0</sup> 59' 31.00"   |  |            |             |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |    |                           |                            |    |                           |                            |    |                           |                            |    |                           |                            |  |
| 3     | 21 <sup>0</sup> 49' 2.74"                                      | 83 <sup>0</sup> 59' 32.76"   |  |            |             |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |    |                           |                            |    |                           |                            |    |                           |                            |    |                           |                            |  |
| 4     | 21 <sup>0</sup> 49' 2.29"                                      | 83 <sup>0</sup> 59' 33.94"   |  |            |             |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |    |                           |                            |    |                           |                            |    |                           |                            |    |                           |                            |  |
| 5     | 21 <sup>0</sup> 49' 1.89"                                      | 83 <sup>0</sup> 59' 35.31"   |  |            |             |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |    |                           |                            |    |                           |                            |    |                           |                            |    |                           |                            |  |
| 6     | 21 <sup>0</sup> 49' 0.96"                                      | 83 <sup>0</sup> 59' 39.48"   |  |            |             |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |    |                           |                            |    |                           |                            |    |                           |                            |    |                           |                            |  |
| 7     | 21 <sup>0</sup> 49' 2.94"                                      | 83 <sup>0</sup> 59' 44.43"   |  |            |             |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |    |                           |                            |    |                           |                            |    |                           |                            |    |                           |                            |  |
| 8     | 21 <sup>0</sup> 49' 4.65"                                      | 83 <sup>0</sup> 59' 46.50"   |  |            |             |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |    |                           |                            |    |                           |                            |    |                           |                            |    |                           |                            |  |
| 9     | 21 <sup>0</sup> 49' 6.53"                                      | 83 <sup>0</sup> 59' 50.45"   |  |            |             |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |    |                           |                            |    |                           |                            |    |                           |                            |    |                           |                            |  |
| 10    | 21 <sup>0</sup> 49' 6.80"                                      | 83 <sup>0</sup> 59' 50.74"   |  |            |             |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |    |                           |                            |    |                           |                            |    |                           |                            |    |                           |                            |  |
| 11    | 21 <sup>0</sup> 49' 6.82"                                      | 83 <sup>0</sup> 59' 51.05"   |  |            |             |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |    |                           |                            |    |                           |                            |    |                           |                            |    |                           |                            |  |
| 12    | 21 <sup>0</sup> 49' 7.13"                                      | 83 <sup>0</sup> 59' 51.38"   |  |            |             |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |    |                           |                            |    |                           |                            |    |                           |                            |    |                           |                            |  |
| 13    | 21 <sup>0</sup> 49' 8.38"                                      | 83 <sup>0</sup> 59' 53.25"   |  |            |             |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |   |                           |                            |    |                           |                            |    |                           |                            |    |                           |                            |    |                           |                            |  |

| SNo | Particulars | Details   |                            | Remarks                    |  |
|-----|-------------|---|----------------------------|----------------------------|--|
|     |             | 14  | 21 <sup>0</sup> 49' 9.15"  | 83 <sup>0</sup> 59' 54.66" |  |
|     |             | 15  | 21 <sup>0</sup> 49' 9.94"  | 83 <sup>0</sup> 59' 58.39" |  |
|     |             | 16  | 21 <sup>0</sup> 49' 10.76" | 83 <sup>0</sup> 59' 58.51" |  |
|     |             | 17  | 21 <sup>0</sup> 49' 10.90" | 83 <sup>0</sup> 59' 59.07" |  |
|     |             | 18  | 21 <sup>0</sup> 49' 10.22" | 83 <sup>0</sup> 59' 59.55" |  |
|     |             | 19  | 21 <sup>0</sup> 49' 10.46" | 84 <sup>0</sup> 00' 1.33"  |  |
|     |             | 20  | 21 <sup>0</sup> 49' 11.34" | 84 <sup>0</sup> 00' 1.39"  |  |
|     |             | 21  | 21 <sup>0</sup> 49' 11.53" | 84 <sup>0</sup> 00' 7.33"  |  |
|     |             | 22  | 21 <sup>0</sup> 49' 23.17" | 84 <sup>0</sup> 00' 6.87"  |  |
|     |             | 23  | 21 <sup>0</sup> 49' 23.18" | 84 <sup>0</sup> 00' 6.54"  |  |
|     |             | 24  | 21 <sup>0</sup> 49' 23.97" | 84 <sup>0</sup> 00' 6.40"  |  |
|     |             | 25  | 21 <sup>0</sup> 49' 23.95" | 84 <sup>0</sup> 00' 6.05"  |  |
|     |             | 26  | 21 <sup>0</sup> 49' 27.91" | 84 <sup>0</sup> 00' 4.78"  |  |
|     |             | 27  | 21 <sup>0</sup> 49' 28.31" | 84 <sup>0</sup> 00' 4.87"  |  |
|     |             | 28  | 21 <sup>0</sup> 49' 29.72" | 84 <sup>0</sup> 00' 4.35"  |  |
|     |             | 29  | 21 <sup>0</sup> 49' 32.30" | 84 <sup>0</sup> 00' 3.36"  |  |
|     |             | 30  | 21 <sup>0</sup> 49' 31.79" | 84 <sup>0</sup> 00' 2.58"  |  |
|     |             | 31  | 21 <sup>0</sup> 49' 31.38" | 84 <sup>0</sup> 00' 1.18"  |  |
|     |             | 32  | 21 <sup>0</sup> 49' 31.08" | 84 <sup>0</sup> 00' 0.57"  |  |
|     |             | 33  | 21 <sup>0</sup> 49' 29.81" | 83 <sup>0</sup> 59' 59.96" |  |
|     |             | 34  | 21 <sup>0</sup> 49' 30.50" | 83 <sup>0</sup> 59' 58.38" |  |
|     |             | 35  | 21 <sup>0</sup> 49' 31.63" | 83 <sup>0</sup> 59' 57.67" |  |
|     |             | 36  | 21 <sup>0</sup> 49' 31.90" | 83 <sup>0</sup> 59' 56.01" |  |
|     |             | 37  | 21 <sup>0</sup> 49' 31.75" | 83 <sup>0</sup> 59' 54.96" |  |
|     |             | 38  | 21 <sup>0</sup> 49' 32.29" | 83 <sup>0</sup> 59' 49.41" |  |
|     |             | 39  | 21 <sup>0</sup> 49' 35.90" | 83 <sup>0</sup> 59' 50.53" |  |
|     |             | 40  | 21 <sup>0</sup> 49' 36.51" | 83 <sup>0</sup> 59' 48.71" |  |
|     |             | 41  | 21 <sup>0</sup> 49' 37.01" | 83 <sup>0</sup> 59' 48.01" |  |
|     |             | 42  | 21 <sup>0</sup> 49' 37.07" | 83 <sup>0</sup> 59' 46.56" |  |
|     |             | 43  | 21 <sup>0</sup> 49' 32.78" | 83 <sup>0</sup> 59' 43.33" |  |
|     |             | 44  | 21 <sup>0</sup> 49' 32.05" | 83 <sup>0</sup> 59' 41.94" |  |
|     |             | 45  | 21 <sup>0</sup> 49' 26.43" | 83 <sup>0</sup> 59' 38.14" |  |
|     |             | 46  | 21 <sup>0</sup> 49' 24.64" | 83 <sup>0</sup> 59' 37.39" |  |
|     |             | 47  | 21 <sup>0</sup> 49' 22.69" | 83 <sup>0</sup> 59' 37.51" |  |
|     |             | 48  | 21 <sup>0</sup> 49' 21.39" | 83 <sup>0</sup> 59' 36.39" |  |
|     |             | 49  | 21 <sup>0</sup> 49' 20.51" | 83 <sup>0</sup> 59' 36.24" |  |
|     |             | 50  | 21 <sup>0</sup> 49' 19.49" | 83 <sup>0</sup> 59' 35.80" |  |
|     |             | 51  | 21 <sup>0</sup> 49' 18.88" | 83 <sup>0</sup> 59' 35.31" |  |
|     |             | 52  | 21 <sup>0</sup> 49' 18.14" | 83 <sup>0</sup> 59' 35.13" |  |
|     |             | 53  | 21 <sup>0</sup> 49' 17.26" | 83 <sup>0</sup> 59' 34.58" |  |
|     |             | 54  | 21 <sup>0</sup> 49' 12.62" | 83 <sup>0</sup> 59' 31.88" |  |
|     |             | 55  | 21 <sup>0</sup> 49' 11.79" | 83 <sup>0</sup> 59' 30.81" |  |
|     |             | 56  | 21 <sup>0</sup> 49' 11.74" | 83 <sup>0</sup> 59' 29.96" |  |
|     |             | 57  | 21 <sup>0</sup> 49' 11.16" | 83 <sup>0</sup> 59' 29.35" |  |
|     |             | <b>Coordinates of Boundary Pillars<br/>Points of the Company Premises</b> |                            |                            |  |

| SNo   | Particulars   | Details  | Remarks  |            |             |    |                           |                            |    |                            |                            |    |                            |                            |    |                           |                            |    |                           |                            |    |                           |                            |  |
|-------|---|--|--|------------|-------------|----|---------------------------|----------------------------|----|----------------------------|----------------------------|----|----------------------------|----------------------------|----|---------------------------|----------------------------|----|---------------------------|----------------------------|----|---------------------------|----------------------------|--|
|       |   | <p><b>Area 13.148 Acres at South of IDCO Road</b></p> <table border="1"> <thead> <tr> <th>Point</th> <th>Latitude N</th> <th>Longitude E</th> </tr> </thead> <tbody> <tr> <td>01</td> <td>21<sup>0</sup> 49' 2.15"</td> <td>83<sup>0</sup> 59' 44.49"</td> </tr> <tr> <td>02</td> <td>21<sup>0</sup> 48' 57.31"</td> <td>83<sup>0</sup> 59' 45.80"</td> </tr> <tr> <td>03</td> <td>21<sup>0</sup> 48' 59.17"</td> <td>83<sup>0</sup> 59' 55.08"</td> </tr> <tr> <td>04</td> <td>21<sup>0</sup> 49' 0.11"</td> <td>83<sup>0</sup> 59' 55.08"</td> </tr> <tr> <td>05</td> <td>21<sup>0</sup> 49' 0.03"</td> <td>83<sup>0</sup> 59' 54.25"</td> </tr> <tr> <td>06</td> <td>21<sup>0</sup> 49' 7.56"</td> <td>83<sup>0</sup> 59' 53.51"</td> </tr> </tbody> </table> | Point  | Latitude N | Longitude E | 01 | 21 <sup>0</sup> 49' 2.15" | 83 <sup>0</sup> 59' 44.49" | 02 | 21 <sup>0</sup> 48' 57.31" | 83 <sup>0</sup> 59' 45.80" | 03 | 21 <sup>0</sup> 48' 59.17" | 83 <sup>0</sup> 59' 55.08" | 04 | 21 <sup>0</sup> 49' 0.11" | 83 <sup>0</sup> 59' 55.08" | 05 | 21 <sup>0</sup> 49' 0.03" | 83 <sup>0</sup> 59' 54.25" | 06 | 21 <sup>0</sup> 49' 7.56" | 83 <sup>0</sup> 59' 53.51" |  |
| Point | Latitude N  | Longitude E  |  |            |             |    |                           |                            |    |                            |                            |    |                            |                            |    |                           |                            |    |                           |                            |    |                           |                            |  |
| 01    | 21 <sup>0</sup> 49' 2.15"   | 83 <sup>0</sup> 59' 44.49"   |  |            |             |    |                           |                            |    |                            |                            |    |                            |                            |    |                           |                            |    |                           |                            |    |                           |                            |  |
| 02    | 21 <sup>0</sup> 48' 57.31"  | 83 <sup>0</sup> 59' 45.80"   |  |            |             |    |                           |                            |    |                            |                            |    |                            |                            |    |                           |                            |    |                           |                            |    |                           |                            |  |
| 03    | 21 <sup>0</sup> 48' 59.17"  | 83 <sup>0</sup> 59' 55.08"   |  |            |             |    |                           |                            |    |                            |                            |    |                            |                            |    |                           |                            |    |                           |                            |    |                           |                            |  |
| 04    | 21 <sup>0</sup> 49' 0.11"   | 83 <sup>0</sup> 59' 55.08"   |  |            |             |    |                           |                            |    |                            |                            |    |                            |                            |    |                           |                            |    |                           |                            |    |                           |                            |  |
| 05    | 21 <sup>0</sup> 49' 0.03"   | 83 <sup>0</sup> 59' 54.25"   |  |            |             |    |                           |                            |    |                            |                            |    |                            |                            |    |                           |                            |    |                           |                            |    |                           |                            |  |
| 06    | 21 <sup>0</sup> 49' 7.56"   | 83 <sup>0</sup> 59' 53.51"   |  |            |             |    |                           |                            |    |                            |                            |    |                            |                            |    |                           |                            |    |                           |                            |    |                           |                            |  |
| v     | Elevation of the project site   | 199 m to 220m AMSL   |  |            |             |    |                           |                            |    |                            |                            |    |                            |                            |    |                           |                            |    |                           |                            |    |                           |                            |  |
| vi    | Involvement of Forest land if any   | Nil  | No Forest Land is involved within the project area   |            |             |    |                           |                            |    |                            |                            |    |                            |                            |    |                           |                            |    |                           |                            |    |                           |                            |  |
| vii   | Water body exists within the project site as well as study area   | <p><b>Project Site:</b> A seasonal nallah is passing through the project site.</p> <p><b>Study area:</b><br/>River Bheden: 3.00 Kms/ SW<br/>River Ib: 4.40 Kms /west.</p>  | The water level has never crossed the width of the nallah located within project site, as observed since the inception of the plant. |            |             |    |                           |                            |    |                            |                            |    |                            |                            |    |                           |                            |    |                           |                            |    |                           |                            |  |
| viii  | Existence of ESZ / ESA / National park /wildlife sanctuary /biosphere Reserve / tiger reserve / elephant reserve. If any within the study area. | <p>Nil.</p> <p>However, the following forests are located in the study area:<br/>Khait RF: 3.6km/ WSW<br/>Rampur RF: 4.67 km/ SW<br/>Malda Rf: 5.0 km/ SSW<br/>Patrapali RF: 6.1 km SSW<br/>Katikela RF: 8.2 km/ ESE<br/>Siriypali RF: 9.57km/ E</p>   |  |            |             |    |                           |                            |    |                            |                            |    |                            |                            |    |                           |                            |    |                           |                            |    |                           |                            |  |

48.1.8 Consent to Operate (CTO) renewal for the existing unit was accorded by OPCB in favour of M/s. SMC Power Generation Limited on 16/03/2021. The validity of current CTO is up to 31/03/2022.

48.1.9 Implementation status of the existing EC:

| S No | Facilities              | As per EC dated 07/08/2007                     | Implementation Status as on 31/10/2021 | Production as per CTO              |
|------|-------------------------|--|--|------------------------------------|
| 1    | DRI Kilns (Sponge Iron) | DRI Kiln: 6x100 TPD + 2x300 TPD (4,00,000 TPA) | DRI Kiln: 6x100 TPD (2,00,000 TPA)     | DRI Kiln: 8x100 TPD (2,67,000 TPA) |

| S No | Facilities                          | As per EC dated 07/08/2007                  | Implementation Status as on 31/10/2021 | Production as per CTO   |
|------|-------------------------------------|---|--|---|
| 2    | DRI Kilns (Sponge Iron) of M/s PSPL | -   | (2x100 TPD)<br>67,000 TPA              |   |
| 3    | Steel Melting Shop                  | 4x20 T IF and<br>40 T EAF<br>(4,26,000 TPA) | 4x20 T IF<br>(2,80,000 TPA)            | 4x20 T IF<br>(2,80,000 TPA)   |
| 4    | Blast Furnace (Hot Metal)           | 4,00,000 TPA                                | 2,80,000                               | These units were commissioned by the previous promoter after obtaining CTO from OPCB during 2016-17. However, the new promoter is yet to obtain CTO renewal for operation of these units. |
| 5    | Blast Furnace (for Pig Iron)        | 1,80,000                                    | 1,80,000                               |   |
| 6    | Sinter Plant                        | 6,00,000                                    | 6,00,000                               |   |
| 7    | Rolling Mill                        | 1,00,000                                    | 1,00,000                               | 1,00,000  |
| 8    | Ferro Alloys Plant                  | 4x16 MVA<br>(1,00,000 TPA)                  | 2x16 MVA<br>(50,000 TPA)               | 2x16 MVA<br>(50,000 TPA)  |
| 9    | Captive Power Plant (WHRB)          | 30 MW                                       | 22 MW                                  | 22.00   |
| 10   | Captive Power Plant (CFBC)          | 40.00                                       | -                                      | -   |

48.1.10 The unit configuration and capacity of existing and proposed project is given as below:

| S No | Name                                 | Existing Units |                | Proposed Units |                | Total (Existing + Proposed) |                |
|------|--------------------------------------|----------------|----------------|----------------|----------------|-----------------------------|----------------|
|      |                                      | Configuration  | Production TPA | Configuration  | Production TPA | Configuration               | Production TPA |
| 1    | DRI Kilns (Sponge Iron Plant)        | 6x100 TPD      | 2,00,000       | 2x300 TPD      | 2,00,000       | 6x100 TPD and<br>2x300 TPD  | 4,67,000       |
| 2    | DRI Kilns (Sponge Iron Plant) of M/s | 2x100 TPD      | 67,000         | -              | -              | 67,000                      |                |

| S No | Name                                   | Existing Units       |   | Proposed Units |                | Total (Existing + Proposed) |   |
|------|--|----------------------|---|----------------|----------------|-----------------------------|---|
|      |  | Configuration        | Production TPA                            | Configuration  | Production TPA | Configuration               | Production TPA                            |
|      | PSPL                                   |                      |   |                |                |                             |   |
| 3    | Steel Melting Shop (Induction Furnace) | 4x20 T /H            | 2,80,000                                  | -              | -              | 4x20 T /H                   | 2,80,000                                  |
| 4    | Blast Furnace                          | 1x450 M <sup>3</sup> | Hot Metal: 2,80,000<br>Pig Iron: 1,80,000 | -              | -              | 1x450 M <sup>3</sup>        | Hot Metal: 2,80,000<br>Pig Iron: 1,80,000 |
| 5    | Sinter Plant                           | 60 m <sup>2</sup>    | 6,00,000                                  | -              | -              | 60 M <sup>2</sup>           | 6,00,000                                  |
| 6    | Rolling Mill with CCM                  | 6/11 (3 Strand CCM)  | 1,00,000                                  | -              | -              | 6/11 (3 Strand CCM)         | 1,00,000                                  |
| 7    | Ferro Alloys Plant                     | 2x16 MVA             | 50,000                                    | -              | -              | 2x16 MVA                    | 50,000                                    |
| 8    | Captive Power Plant (WHRB)             | 4x24 TPH             | 22 MW                                     | 1x36 TPH       | 8MW            | 4x24 TPH and 1x36 TPH       | 30 MW                                     |
| 9    | Captive Power Plant (CFBC)             | -                    | -   | 1x180 TPH      | 40 MW          | 1x180 TPH                   | 40 MW                                     |

48.1.11 The details of the raw material requirement for the proposed project along with its source and mode of transportation is given as below:

| S. No | Raw Material                    | Quantity required per annum |           |          | Source                | Distance from site (kms) | Mode of Transportation |
|-------|---------------------------------|-----------------------------|-----------|----------|-----------------------|--------------------------|------------------------|
|       |                                 | Existing                    | Expansion | Total    |                       |                          |                        |
| 1     | Sized Iron Ore for DRI (in TPA) | 5,07,300                    | 3,80,000  | 8,87,300 | Joda -Barbil          | 300                      | By Rail & Road         |
| 2     | Coal for DRI (in TPA)           | 2,49,912                    | 1,87,200  | 4,37,112 | MCL Mines             | 100                      | By Rail & Road         |
| 3     | Dolomite for DRI (in TPA)       | 34,176                      | 25,600    | 59,776   | Odisha & Chhattisgarh | 300                      | By Road                |
| 4     | Coal for                        | -                           | 2,41,338  | 2,41,338 | MCL Mines             | 100                      | By Rail & Road         |

| S. No | Raw Material                | Quantity required per annum |           |          | Source          | Distance from site (kms) | Mode of Transportation |
|-------|-----------------------------|-----------------------------|-----------|----------|-----------------|--------------------------|------------------------|
|       |                             | Existing                    | Expansion | Total    |                 |                          |                        |
|       | CFBC (in TPA)               |                             |           |          |                 |                          |                        |
| 5     | Coal Char for CFBC (In TPA) | -                           | 3,73,602  | 3,73,602 | Internal Source | -                        | By Road                |
| 6     | Waste Gas (WHRB)            | 1,44,000                    | 1,44,000  | 2,88,000 | Internal Source | -                        | Insulated Pipeline     |

48.1.12 The water requirement for the existing and propped project is estimated as 8798 m<sup>3</sup> /day which will be obtained from the River Bheden. Permission for drawl of 9126 m<sup>3</sup> / day or 3.73 Cusec of Surface water from River Bheden has already been allocated by Water Resources Dept. Govt. of Odisha vide letter no. 13440/WR dated 23/07/2020.

48.1.13 The power requirement for the project is estimated as 90 MW, out of which total power of 70 MW will be generated in house by WHRB and CFBC Boilers. Balance 20 MW will be sourced from State Grid.

48.1.14 Baseline Environmental Studies:

|                                       |   |
|---------------------------------------|---|
| Period                                | Post Monsoon 2020 (October, November and December 2020)   |
| AAQ parameters at 08 locations        | PM <sub>2.5</sub> = 21.78 to 40.98 µg/m <sup>3</sup>  |
|                                       | PM <sub>10</sub> = 60.61 to 79.98 µg/m <sup>3</sup>   |
|                                       | SO <sub>2</sub> = 6.07 to 10.6 µg/m <sup>3</sup>  |
|                                       | NO <sub>x</sub> = 6.72 to 17.96 µg/m <sup>3</sup>   |
|                                       | CO = < 1.14 mg/m <sup>3</sup>   |
| AAQ Modelling (Incremental GLC)       | PM <sub>10</sub> = 9.57 µg/m <sup>3</sup> (with control measures)   |
|                                       | PM <sub>2.5</sub> = 5.74 µg/m <sup>3</sup> (with control measures)  |
|                                       | SO <sub>2</sub> = 12.85 µg/m <sup>3</sup> (with control measures)   |
|                                       | NO <sub>x</sub> = 6.58 µg/m <sup>3</sup> (with control measures)  |
| Ground water quality at 08 locations  | pH: 6.79 to 7.2<br>Total Hardness: 90 to 316 mg/l,<br>Chlorides: 35.48 to 148.81 mg/l,<br>Fluoride: < 1.00 mg/l.<br>Heavy metals are within the limits. |
| Surface water quality at 10 locations | pH: 7.00 to 7.61<br>DO: 5.70 to 7.20 mg/l<br>BOD: 2.10 to 4.90 mg/l.<br>COD from 8.00 to 24.0 mg/l  |
| Noise levels                          | 50.80 to 62.10 dB (A) for the day time and 40.20 to 53.70 dB (A) for the Night time.  |

|  |  |
|--|--|
| <p>Traffic assessment study findings</p> | <p>NH 200 at 5.0 kms in North and SH 10 is around 0.6 kms in East are the main corridor used by the industries located in the vicinity for road transport of their raw materials and finish product.<br/>                 Additional traffic Load due to 4 to 5 numbers of 35 Ton capacity Trucks per hour.<br/>                 Average Existing Daily Load on the SH 10: 3291 PCU/day<br/>                 Additional daily Load due to the expansion: 360 PCU/day<br/>                 Proposed Load after the expansion: 3651 PCU/day<br/>                 Maximum daily Load as per IRC -73:1980 guideline: 52,800 PCU/day<br/> <b>Level of Service of SH 10 with existing traffic:</b><br/> <math>3291/52,800 = 0.062</math> (Cat. A – Excellent)<br/> <b>Level of Service of SH after proposed project traffic:</b><br/> <math>3651/52,800 = 0.69</math> (Cat. A – Excellent)</p> <p>Due to additional traffic of proposed project level of service will remain same and sufficient to cater the additional traffic load.</p> |
| <p>Flora and fauna</p>                   | <p>There is no Schedule –I Fauna found within the Study Area. There is no endangered species present in the study area.</p>  |

48.1.15 The details of solid and hazardous waste generation along with its mode of treatment/disposal is furnished as below:

| S.No | Type of waste | Source of generation                          | Quantity (in TPA) | Disposal method/ Management practice                                  |
|------|---------------|---|-------------------|---|
| 1    | Dolo Char     | From 8x100 TPD DRI and 2x300 TPD DRI          | 288090            | 100% utilization in our own CFBC boiler to be established.            |
| 2    | Dust          | Dust from Pollution Control Devises (ESP)     | 210210            | Will be processed in the Sinter Plant.                                |
| 3    | Dust          | From Raw Material /Production Handling System | 7920              | Used at Sinter Plant.   |
| 4    | Slag          | SMS   | 412170            | Will be used as alternate Building Material.                          |
| 5    | Slag          | Blast Furnace                                 | 142560            | Will be sold to Cement Plant once Blast Furnace is resumed operation. |
| 6    | Dust          | Blast Furnace                                 | 510000            | Processed in Sinter Plant   |
| 7    | Dust          | Sinter Plant                                  | 199980            | Total Fines reused in the Process                                     |
| 8    | Mill Scale    | Rolling Mill                                  | 3960              | 100% Used in Induction Furnace  |

| S.No | Type of waste                                     | Source of generation           | Quantity (in TPA) | Disposal method/ Management practice   |
|------|---|--------------------------------|-------------------|--|
| 9    | High Carbon Ferro Chrome Slag                     | Ferro Alloys Plant             | 30030             | 60 % of slag is pure slag which is to be taken for disposal at designated disposal site. Balance 40 % will be used for Road construction after TCLP Test (or) it shall be sent to designated TSDF. |
| 10   | Silico Manganese Slag                             |                                | 9240              | Disposed for use in slag cement production in existing and upcoming cement plant in the vicinity.  |
| 11   | Ferro Manganese Slag                              |                                | 20130             | 6600 TPA will be reused in Silico Manganese production and balance quantity will be disposed for use as alternate construction material  |
| 12   | Bottom Ash including Clinker & Fly Ash (ESP Dust) | Captive Power Plant 40 MW CFBC | 351780            | Fly and bottom ash generation from CFBC Boiler will be utilized as per Fly Ash Notification, S.O. 254(E) dated 25 <sup>th</sup> January, 2016 and amended thereafter.                              |

48.1.16 Public Consultation:

In the present case the Public hearing was exempted as per the EIA notification No S.O. 1247 (E) dated 18/03/2021. However, the action plan to address the earlier public hearing held on 30/08/2006 as per MoEF&CC O.M. dated 30/09/2020 is furnished as below:

**Action Plan as per MoEF& CC O. M. dated 30/09/2020**

| S No | Issues Raised   | Physical Activity and Action Plan for Implementation  | Proposed Completion Date                           |
|------|---|---|--|
| i    | The industry shall take up the peripheral development of the local areas. | Boundary Wall of Hirma Primary Govt. School   | 31/12/2021   |
| ii   |   | Drinking Water supply to Hirma and Badmal Villages  | Continuing throughout the year and shall continue. |
| iii  |   | 12 Numbers of Street Lights with Complete fitting and maintenance at Kukurjangha and Badmal Villages including payment of tariff. | 31/12/2021   |
| iv   |   | Refurbishing Community Centre and Mandapat village Badmal   | 31/12/2021   |
| v    |   | Providing RO Water to Revenue Inspector Office, at Kukurjangha and Tehsil Office at Jharsuguda                                    | 31/12/2021   |

| S No | Issues Raised | Physical Activity and Action Plan for Implementation  | Proposed Completion Date  |
|------|---------------|---|---|
| vi   |               | Providing one number of Ambulance for local usage covering Kukurjangha, Badmal and Hirma Village          | Completed as on May,2021  |
| vii  |               | Providing Cold Drinking Water at the Bus Stop of Jharsuguda   | 31/03/2022  |
| viii |               | Preparation of Play Ground in Badmal Village with supply of accessories                                   | 31/03/2022  |
| ix   |               | Annual Distribution of Mosquito Net and Blankets to BPL Beneficiaries of Jharsuguda on Collector's Advise |   |
| x    |               | Refurbishing Village Ponds in Harimandir, Gauntiapada, Telipada, Harekrishnapur, Kukurjangha and Badmal   | 30/06/2022  |
| xi   |               | Supply of Computers and Study Materials for High Schools in Kukurjangha and Badmal Villages.              | Is being supplied as of March 2021 and shall be reinforced for new students every year. |
| xii  |               | Supply of Solar Lights in Hari mandir, Gauntiapada, Telipada, Harekrishnapur, Kukurjangha and Badmal      | 30/06/2022.   |

48.1.17 The capital cost of the proposed project is **Rs. 125.87 Crores (Total Cost existing – Rs. 192 Crores and for proposed expansion: Rs. 317.87 Crores)** and the capital cost for environmental protection measures is proposed as **Rs.59.81 Crores**. The annual recurring cost towards the environmental protection measures is proposed as **Rs.2.54 Crores**. Total employment due to existing and proposed project will be **1488** persons (direct and indirect). The details of cost for environmental protection measures are as follows:

| S No | Description of Item  | Existing (Rs. In lakhs) |                |
|------|--|-------------------------|----------------|
|      |  | Capital Cost            | Recurring Cost |
| 1    | Environmental Monitoring Equipment   | 1630.00                 | 25.0           |
| 2    | Fugitive Dust Suppression (water Sprinkling)                                 | 480.00                  | 5.0            |
| 3    | Air Pollution Control (ESP, Bag Filter)                                      | 780.00                  | 33.0           |
| 4    | Environmental Awareness/Training Facility                                    | 64.00                   | 130            |
| 5    | Rainwater Harvesting, Water Management                                       | 100.00                  | 15.0           |
| 6    | ETP/STP , Water Treatment Plant  | 1000.00                 | 3.0            |
| 7    | Solid/Hazardous Waste Management   | 180.00                  | 3.5            |
| 8    | Cost Towards PH Issues Implementation including cost for Occupational Health | 1500.00                 | 35.0           |
| 9    | Plantation   | 247.00                  | 4.5            |

| S No | Description of Item | Existing (Rs. In lakhs) |                |
|------|---------------------|-------------------------|----------------|
|      |                     | Capital Cost            | Recurring Cost |
|      | <b>Total</b>        | <b>5981.00</b>          | <b>254.0</b>   |

- 48.1.18 Greenbelt will be developed in **27.00** ha which is about **34.14** % of the total project area. A **15.00 m** wide greenbelt, consisting of at least 3 tiers around plant boundary will be developed as greenbelt and green cover as per CPCB/MoEF&CC, New Delhi guidelines. Local and native species will be planted with a density of 2500 trees per hectare. Total no. of **67,500** saplings will be planted and nurtured in 27 hectares up to December, 2022.

| S No      | Location  | Area in Ha   | Number of Plants |
|-----------|---|--------------|------------------|
| 01        | Boundary Wall of the Project Site   | 7.00         | 17,500           |
| 02        | Along all Internal Roads  | 6.00         | 15,000           |
| 03        | Near Induction Furnace  | 5.00         | 12,500           |
| 04        | Near Assembly Point/ Plant Hospital/ CFBC Area  | 4.00         | 10,000           |
| 05        | Sinter Plant Area/Raw Material Storage Area/ BF Area/SMS Area/ DRI Area/ Both side of the Nala. | 5.00         | 12,500           |
| <b>06</b> | <b>Total Area</b>   | <b>27.00</b> | <b>67,500</b>    |

- 48.1.19 It is submitted by PP that no Violation under EIA, 2006 / Court case / Show Cause / direction issued against the proposed project.
- 48.1.20 Name of the EIA consultant: M/s. Ardra Consulting Services Pvt. Ltd., [at S No. 94, List of ACOs with their Certificate no. NABET/EIA/1922/IA0055, valid up to 29/12/2022 Rev. 15, October 11, 2021].

**Certified compliance report from Regional Office**

- 48.1.21 The Status of compliance of earlier EC was obtained from Regional Office, Integrated Regional Office, Bhubaneswar, Odisha vide letter no. 101-304/EPE/1075 dated 07/09/2021 in the name of M/s. SMC Power Generation Limited. The Action taken report regarding the partially/non-complied condition was submitted to regional officer MoEF&CC, Integrated Regional Office, Bhubaneswar, Odisha vide letter no. SMCPGL/RO-MoEF&CC/2021/013 dated 11/09/2021. MoEF&CC (RO), Integrated Regional Office, Bhubaneswar, Odisha evaluated the same and has issued letter dated 11/10/2021. The details of the Reassessment made by IRO, Bhubaneswar in the report dated 11/10/2021 on action taken report (ATR) submitted by PP is given as below:

| S No. | Non-compliances details  | ATR by PP  | Condition No |                 |         | Re-assessment by IRO   |
|-------|--|--|--------------|-----------------|---------|--|
|       |  |  | EC date      | Specific        | General |  |
| 1     | It is noted that most of the internal roads need to be made concrete / black topped. The project authorities need to take immediate measures to check fugitive emission due to | In the submitted Action Taken Report, the PP have reported that all the internal roads will be made concrete and | 07/08/2007   | Condition No.ii | -       | <b>Remarks of IRO:</b><br>The condition is treated as 'Assured to comply'. |

| S No | Non-compliances details   | ATR by PP  | Condition No |                  |         | Re-assessment by IRO   |
|------|---|--|--------------|------------------|---------|--|
|      |   |  | EC date      | Specific         | General |  |
|      | transportation of vehicles inside the plant. All along the road's plantation of suitable species need to be done to check dispersal of fugitive emission generated due to transportation. The project authorities need to submit an approved greenbelt development plan along with implementation schedule for covering minimum 33 % of the project- area.  | reinstallation of fixed water sprinklers including rain guns will be completed within a time frame of December, 2021. Regarding plantation, they have also assured to develop green belt in consultation with the concerned DFO.   |              |                  |         |  |
| 2    | The project does not have an Effluent Treatment Plant. This need to be installed and a plan for 100% utilization of the effluents through recycling and reuse of the treated water. There should be proper drainage for the storage of the surface runoff in the plant. All the water needs to be channeled to a pond and after settling, treatment to be done and all this water needs to be recycled and reused in the plant. | It is submitted by the PP that the installation of effluent treatment plant is to be made along with the proposed CFBC power plant which is to be completed within a time frame of six months. Further, there is no discharge of waste water from the existing operation of DRI-SMS-Rolling Mill-Blast Furnace-Sinter Plant-FAP and 100% of the treated waste water shall be recycled and reused in the plant. | 07/08/2007   | Condition No.iii | -       | <b>Remarks of IRO:</b><br>The condition is treated as 'Assured to comply'. |

| S No | Non-compliances details  | ATR by PP  | Condition No |                    |         | Re-assessment by IRO   |
|------|--|--|--------------|--------------------|---------|--|
|      |  |  | EC date      | Specific           | General |  |
| 3    | During monitoring it was observed that monitoring of ground water is not been carried out and it has been assured by the project authorities it will be complied with. However, the project authorities should submit an action plan for compliance of the condition.  | The PP has reported that as the plant was closed down for a long period most of the test wells had collapsed. They have started the reconstruction of new Test Wells will be completed by 31 <sup>st</sup> March 2022 and monitoring report of ground water will be carried out accordingly. | 07/08/2007   | Condition No. iv   |         | <b>Remarks of IRO:</b><br>The condition may be treated as 'Assured to comply'. |
| 4    | The project authorities need to submit an approved greenbelt development plan along with implementation schedule for covering minimum 33 % of the project area in consultation with concerned Divisional Forest Officer. The project may seek guidance of the CPCB guidelines on list of species which are resistant to pollution and take necessary action accordingly. | The PP has reported that they will develop green belt in consultation with the concerned DFO.  | 07/08/2007   | Condition No. viii | -       | <b>Remarks of IRO:</b><br>The condition may be treated as 'Assured to comply'. |

| S No | Non-compliances details   | ATR by PP   | Condition No |                  |                  | Re-assessment by IRO   |
|------|---|---|--------------|------------------|------------------|--|
|      |   |   | EC date      | Specific         | General          |  |
| 5    | It has been observed that workers were not using gloves, which also needs to be ensured. Workers in the welding unit were not using protective glasses. This needs to be ensured. Only some of the workers were seen to be using the protective masks. The workers working in these areas need to be provided with necessary protective equipments like the ear muffs. The project should ensure that these are being adhered to. It has been noted that cooking gas was being used in the project to facilitate in the welding process. This needs to be taken care and stopped immediately. The detailed information on occupational health surveillance programme being carried out should be communicated to this office. | The PP has reported that they have conducted awareness programme for wearing PPEs. Industrial cylinder has been provided in place of domestic cylinder. It is also submitted that the personnel working in the workshop have been provided with the PPE Kits for safety and sound health. | 07/08/2007   | Condition No. ix |                  | <b>Remarks of IRO:</b><br>The condition is <b>Complied with.</b> |
| 6    | The detailed information on recommendations of the Charter on Corporate Responsibility for Environmental Protection (CREP) should be submitted to this office.  | The PP has submitted detailed information on the Corporate Responsibility for Environmental Protection (CREP). They need to submit the progress made in every half yearly compliance report being submitted to the Regional Office and Ministry.  | 07/08/2007   | Condition No. x  |                  | <b>Remarks of IRO:</b><br>The condition is <b>Complied with.</b> |
| 7    | Information on collection of industrial waste water, its treatment and utilization should be submitted to this office.  | Information on collection of industrial waste water, its treatment and utilization  | 07/08/2007   | -                | Condition No. iv | <b>Remarks of IRO:</b><br>The condition is                       |

| S No | Non-compliances details   | ATR by PP   | Condition No |          |                   | Re-assessment by IRO  |
|------|---|---|--------------|----------|-------------------|---|
|      |   |   | EC date      | Specific | General           |   |
|      |   | has been submitted to IRO.  |              |          |                   | <b>Complied with.</b>   |
| 8    | However, during the monitoring, it was noted that the industrial equipment's installed within the plant are pretty old and needs proper repair and maintenance. If required, the project authorities should replace the old machinery installed in the plant with the state of the art and highly efficient machinery serving the same purpose but with environment friendly performance. The noise generated in the Steel Melting Shop by the industrial equipment needs to be reduced by taking necessary steps | The PP has assured to comply with the above condition.  | 07/08/2007   | -        | Condition No. v   | <b>Remarks of IRO:</b><br>The condition may be treated "Assured to comply". |
| 9    | The item wise details on proposed expenditure on environmental protection measures and safeguards should be submitted to this office.   | The PP has submitted information to IRO office on proposed expenditure on environmental protection measures and safeguards.                                 | 07/08/2007   | -        | Condition No. vi  | <b>Remarks of IRO:</b><br>The condition is <b>Complied with.</b>            |
| 10   | Detailed information on environmental pollution control, measures installed or proposed to be installed, along with budgetary provisions, should be communicated to this office.  | PP has submitted information on environmental pollution control measures installed or proposed to be installed, along with budgetary provisions to the IRO. | 07/08/2007   | -        | Condition No. vii | <b>Remarks of IRO:</b><br>The condition is <b>Complied with.</b>            |

48.1.22 During the meeting, project proponent submitted written submission on the following points:

- PP submitted that plantation over 27 ha with 2500 plants per ha shall be completed by December 2022 and 15 m width of Green Belt shall be created along the Boundary Walls. Detail has been updated at para 48.1.18 above.
- Total internal roads for a length of 4 kms will be made concreted by 31<sup>st</sup> March 2022 along with completion of maintenance of existing Units and commissioning of the proposed Units.
- The Storm Water Drains will be channelized to either of the Water Reservoirs and the depth of Water Reservoirs will be enhanced to retain total storm water Runoff even during intensive rainy days. No storm water will be discharged outside the project premises. During off season this water will supplement to the water requirement of the plant for various process.
- The existing practice of domestic waste water through Septic Tank and Soak Pits, will be replaced with STP of capacity 120 KL within the plant premises by 31<sup>st</sup> March 2022.
- Installation of ETP of capacity 500 KL for treatment of Effluents other than Ferro Alloy Plant will be completed by 31<sup>st</sup> March 2022.
- Two additional fields will be added to the existing ESPs with enhanced electric field for better efficiency of ESPs to adhere to 30 mg/Nm<sup>3</sup>.
- The approach road from High Way to Industry Gate will be maintained as per the IRC guidelines.
- The revised details of Solid Waste generation and Utilisation unit wise was submitted by PP, revised detail has been updated at para 48.1.15 above.
- Revised action plan to address the issues raised during the public hearing held on 30/08/2006 has been submitted and incorporated at 48.1.16.

#### **Observations of the Committee**

48.1.23 The committee noted the following:

- i. The proposal was appraised by the EAC as per the provisions contained in MoEF&CC notification S.O. 1247 (E) dated 18/03/2021 as the PP has completed more than 50% of construction of un-implemented facilities envisaged under the EC dated 7/08/2007 namely 2x300 TPD DRI Kilns, 40 MW coal based CPP and 8 MW WHRB based CPP.
- ii. The new promoter has commenced the operation of the plant only on 21/03/2021 after obtaining CTO renewal from OPCB.
- iii. The Committee noted that the EIA/EMP report is in compliance of the ToR issued for the project, reflecting the present environmental concerns and the projected scenario for all the environmental components. The Committee has also found that the baseline data and incremental GLC due to the proposed project within NAAQ standards.
- iv. The EAC also deliberated on the certified compliance report of RO as well as action taken report of PP on the observed non-compliances, written submissions & action plan to address the issues raised during public hearing and found it satisfactory.

#### **Recommendations of the Committee**

48.1.24 In view of the foregoing and after detailed deliberations, the committee recommended the instant proposal for grant of Environment Clearance under the provisions of EIA Notification, 2006 subject to the stipulation of specific conditions and general conditions as per the Ministry's Office Memorandum No. 22-34/2018-III dated 9/8/2018 based on project specific requirements.

**A. Specific conditions**

- i. Particulate matter emission from all the stacks shall not exceed 30 mg/Nm<sup>3</sup>.
- ii. Green belt shall be developed in 27 ha land of all along the periphery of the plant with a density of 2500 sapling per hectare by 31<sup>st</sup> December, 2022 as committed by the PP.
- iii. 100 % solid waste generated in the facility shall be utilized. Maximum 90 days storage capacity shall be allowed inside the plant complex for solid wastes.
- iv. All stockyards shall be having impervious flooring and shall be equipped with water spray system for dust suppression. Stock yards shall also have garland drains to trap the run off material.
- v. Slip roads shall be provided at the gates and along crossings on main roads to avoid traffic congestion.
- vi. Performance monitoring of all Pollution Control Devices shall be carried out annually and report submitted to MoEF&CC, Regional Office.
- vii. SiMn slag shall be used for road construction and cement making. SMS slag shall be crushed for metal and flux recovery and aggregate shall be used for the purposes such as road construction, brick manufacturing and filling up of low-lying area etc. High Carbon Ferro Chrome slag shall be sent to the TSDF or construction activities after TCLP test.
- viii. Effluent Treatment Plant of capacity 500 KL for treatment of Effluents other than FAP shall be completed by 31<sup>st</sup> March 2022.
- ix. All internal and connecting road to the Highway shall be black topped/ concreted with suitable load in term of Million Standard Axle (MSA) as per IRC guideline and completed by 31<sup>st</sup> December 2021.
- x. Rain Water harvesting shall be implemented as per the action plan submitted in the EIA report.
- xi. Installation of water sprinklers and rain guns at raw material and finished product handling area shall be completed by 31<sup>st</sup> December, 2021.
- xii. Test wells for ground water quality monitoring shall be completed by 31<sup>st</sup> March 2022 and thereafter, the water quality monitoring shall be carried out half yearly and compliance status shall be reported to Regional Office of the MoEF&CC.
- xiii. Noise pollution shall be controlled by providing acoustic enclosures, Vibration Pads and Personal Protective Equipment (PPE)s to workers by 31<sup>st</sup> March 2022.

**A. General conditions**

**I. Statutory compliance:**

- i. The Environment Clearance (EC) granted to the project/ activity is strictly under the provisions of the EIA Notification, 2006 and its amendments issued from time to time. It does not tantamount/ construe to approvals/ consent/ permissions etc., required to be obtained or standards/conditions to be followed under any other Acts/Rules/Subordinate legislations, etc., as may be applicable to the project.

**II. Air quality monitoring and preservation**

- i. The project proponent shall install 24x7 continuous emission monitoring system at process stacks to monitor stack emission as well as four Continuous Ambient Air Quality Station (CAAQS) for monitoring AAQ parameters with respect to standards prescribed in Environment (Protection) Rules 1986 as amended from time to time. The CEMS and CAAQMS shall be connected to SPCB and CPCB online servers and

- calibrate these systems from time to time according to equipment supplier specification through labs recognised under Environment (Protection) Act, 1986 or NABL accredited laboratories.
- ii. The project proponent shall monitor fugitive emissions in the plant premises at least once in every quarter through laboratories recognized under Environment (Protection) Act, 1986 or NABL accredited laboratories.
  - iii. Appropriate Air Pollution Control (APC) system shall be provided for all the dust generating points including fugitive dust from all vulnerable sources, so as to comply prescribed stack emission and fugitive emission standards.
  - iv. The project proponent shall provide leakage detection and mechanized bag cleaning facilities for better maintenance of bags.
  - v. Recycle and reuse iron ore fines, coal and coke fines, lime fines and such other fines collected in the pollution control devices and vacuum cleaning devices in the process after briquetting/ agglomeration.
  - vi. The project proponent shall ensure covered transportation and conveying of ore, coal and other raw material to prevent spillage and dust generation.
  - vii. The project proponent shall provide primary and secondary fume extraction system at all melting furnaces.
  - viii. Design the ventilation system for adequate air changes as per prevailing norms for all tunnels, motor houses, Oil Cellars.

### **III. Water quality monitoring and preservation**

- i. The project proponent shall install 24x7 continuous effluent monitoring system with respect to standards prescribed in Environment (Protection) Rules 1986 (G.S.R 414 (E) dated 30<sup>th</sup> May 2008; G.S.R 277 (E) dated 31<sup>st</sup> March 2012 (applicable to IF/EAF); S.O. 3305 (E) dated 7<sup>th</sup> December 2015 (Thermal Power Plants) as amended from time to time and connected to SPCB and CPCB online servers and calibrate these system from time to time according to equipment supplier specification through labs recognised under Environment (Protection) Act, 1986 or NABL accredited laboratories.
- iii. Sewage Treatment Plant shall be provided for treatment of domestic wastewater to meet the prescribed standards.
- iv. The project proponent shall provide the ETP for effluents of rolling mills to meet the standards prescribed in G.S.R 277 (E) 31<sup>st</sup> March 2012 (applicable to IF/EAF) as amended from time to time.
- v. Garland drains and collection pits shall be provided for each stock pile to arrest the run-off in the event of heavy rains and to check the water pollution due to surface run off.

### **IV. Noise monitoring and prevention**

- i. Noise quality shall be monitored as per the prescribed Noise Pollution (Regulation and Control) Rules, 2000 and report in this regard shall be submitted to Regional Officer of the Ministry as a part of six-monthly compliance report.

### **V. Energy Conservation measures**

- i. Energy conservation measures may be adopted such as adoption of solar energy and provision of LED lights etc., to minimize the energy consumption.

**VI. Waste management**

- i. Used refractories shall be recycled.
- ii. Kitchen waste shall be composted or converted to biogas for further use.

**VII. Green Belt**

- i. The project proponent shall prepare GHG emissions inventory for the plant and shall submit the programme for reduction of the same including carbon sequestration including plantation.

**VIII. Public hearing and Human health issues**

- i. Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented.
- ii. The project proponent shall carry out heat stress analysis for the workmen who work in high temperature work zone and provide Personal Protection Equipment (PPE) as per the norms.
- iii. Occupational health surveillance of the workers shall be done on a regular basis and records maintained.

**IX. Environment Management**

- i. The project proponent shall comply with the provisions contained in this Ministry's OM vide F.No. 22-65/2017-IA.III dated 30/09/2020.
- ii. The company shall have a well laid down environmental policy duly approved by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental / forest / wildlife norms / conditions. The company shall have defined system of reporting infringements / deviation / violation of the environmental / forest / wildlife norms / conditions and / or shareholders / stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report.
- iii. A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly report to the head of the organization.

**X. Miscellaneous**

- i. The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.
- ii. The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.
- iii. The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.
- iv. The project proponent shall monitor the criteria pollutants level namely; PM<sub>10</sub>, SO<sub>2</sub>, NO<sub>x</sub> (ambient levels as well as stack emissions) or critical sectoral parameters,

- indicated for the projects and display the same at a convenient location for disclosure to the public and put on the website of the company.
- v. The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.
  - vi. The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.
  - vii. The project proponent 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, commencing the land development work and start of production operation by the project.
  - viii. The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.
  - ix. No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC).
  - x. Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.
  - xi. The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.
  - xii. The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.
  - xiii. The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.
  - xiv. Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

48.2 Installation of Cement Grinding Unit of 0.60 MTPA Capacity (Product Mix of OPC, PPC, PSC & PCC) in two Phases (1<sup>st</sup> Phase: 1000 TPD & 2<sup>nd</sup> Phase: 1000 TPD) by **M/s. Mittal Tech Steel and Cement Pvt. Ltd.** located at Village Kurari, Tehsil Durgawati, **District Kaimur, Bihar** [Online Proposal No. IA/BR/IND/136756/2020, File No. J-11011/41/2020-IAII(I)] –**Environment Clearance– regarding.**

48.2.1 M/s. Mittal Tech Steel and Cement Private Limited have made an online application *vide* proposal no. IA/BR/IND/136756/2020 dated 16/10/2021 along with copy of EIA/EMP Report and Form - 2 seeking Environment Clearance (EC) under the provisions of the EIA Notification, 2006 for the project mentioned above. The proposed project activity is listed at Schedule no. '3(b)' under Category "B" of the schedule of the EIA Notification, 2006 and attracts General Condition (iv) due to presence of Inter-state boundary of Bihar and Uttar Pradesh within 5 km radius of the plant site (at a distance of 4.0 km in NW direction), and thus, the project will be treated as Category 'A' Project and appraised at Central level.

**Details submitted by Project proponent**

48.2.2 The details of the ToR are furnished as below:

| <b>Date of Application</b> | <b>Consideration</b>   | <b>Details</b>                         | <b>Date of accord</b>      |
|----------------------------|--|--|----------------------------|
| 13/01/2020                 | 13 <sup>th</sup> Meeting of EAC (Industry - I) held on 24-25 <sup>th</sup> February,2020 | Terms of Reference with public hearing | 08 <sup>th</sup> May, 2020 |

48.2.3 The project of M/s. Mittal Tech Steel and Cement Pvt. Ltd. is located at Kurari Village, Durgawati Tehsil, Kaimur District, Bihar State is for setting up of a new Cement Grinding Unit for production of 0.60 MTPA Cement (Product Mix of OPC, PPC, PSC & PCC).

48.2.4 Environmental Site Settings:

| <b>S No</b> | <b>Particulars</b>   | <b>Details</b>   | <b>Remarks</b>   |
|-------------|--|--|--|
| i.          | Total land   | 4.08 acre (already converted to industrial)  | Land use: Industrial                                       |
| ii.         | Land acquisition details as per MoEF&CC O.M. dated 7/10/2014.  | Total land of 4.08 acre (1.65 ha) is completely under the possession of the company.   | -  |
| iii.        | Existence of habitation & involvement of R&R, if any.  | No habitation exists within the Project site and R&R is not applicable.  | Total project area is under the possession of the company. |
| iv.         | Latitude and Longitude of the project site.  | Latitude: 25°12'34.96" N to 25°12'39.71" N<br>Longitude: 83°26'39.96" E to 83°26'45.13" E  | --   |
| v.          | Elevation of the project site  | 75 m to 76 m above MSL   | --   |
| vi.         | Involvement of Forest land if any.   | Nil  | --   |
| vii.        | Water body exists within the project site as well as study area                                      | <b>Project site:</b> Nil.<br><b>Study area:</b><br>• Karamnasa River (3.5 Km/ NNW)<br>• Kohira Main Canal (3.0 Km/West)<br>• Gihuwan Nadi (5.0 Km/ ESE)<br>• Kohira Nala (5.5 Km/SE) | --   |
| viii.       | Existence of ESZ/ ESA/ national park/ wildlife sanctuary/ biosphere reserve/ tiger reserve/ elephant | Nil  | -  |

| S No | Particulars                               | Details | Remarks |
|------|---|---------|---------|
|      | reserve etc. if any within the study area |         |         |

48.2.5 The unit configuration and capacity of proposed project is given as below:

| S No | Units                                      | Proposed Capacity (MTPA) |
|------|--|--------------------------|
| 1.   | Cement Grinding Unit (OPC, PPC, PSC & PCC) | 0.6 (2 x 0.3)            |

48.2.6 The details of the raw material requirement for the proposed project along with its source and mode of transportation is given as below:

| S. No. | Material | Quantity (MTPA) | Source   | Approx. Distance & Mode of Transportation       |
|--------|----------|-----------------|--|---|
| 1.     | Clinker  | 0.57            | Prism Cement, Satna (Madhya Pradesh)<br>J.P. Cement, Rewa, (Madhya Pradesh)<br>Shree Cement Ltd. Chhattisgarh<br>UltraTech Cement Ltd. Dalla | 350 km<br>300 km<br>630 km<br>145 km<br>By Road |
| 2.     | Slag     | 0.33            | Durgapur Steel Plant, Durgapur (WB)<br>Tata Steel Plant, Jamshedpur (Jharkhand)  | 430 km<br>460 km<br>By Road                     |
| 3.     | Fly Ash  | 0.186           | NTPC, Renusagar, Uttar Pradesh   | 180 km / By Road                                |
| 4.     | Gypsum   | 0.03            | Bhutan<br>Bikaner & Nagaur, Rajasthan  | 950 km<br>1300 km<br>By Road                    |

48.2.7 The water requirement for the project is estimated at 6.5 KLD, out of which 5.0 KLD fresh water will be sourced from the ground water and remaining 1.5 KLD will be treated water from STP. The permission for drawl of groundwater is exempted by CGWA as water requirement for cement grinding unit is less than 10 KLD. The exemption certificate for 5 KLD has been issued *vide* letter no. 21-4/750/BR/IND/2020 dated 25/11/2020.

48.2.8 The power requirement for the project is estimated as 4000 KVA, which will be obtained from the South Bihar Power Distribution Company Limited and D.G. Sets 2x500 kVA (in case of emergency).

48.2.9 Baseline Environmental Studies:

| Period                                       | December, 2019 to February, 2020  | Additional one month data for Revalidation (May, 2021)   |
|--|---|--|
| AAQ parameters at 08 locations (min and max) | PM <sub>2.5</sub> = 49.1 to 54.4 µg/m <sup>3</sup><br>PM <sub>10</sub> = 81.8 to 90.6 µg/m <sup>3</sup><br>SO <sub>2</sub> = 12.6 to 14.4 µg/m <sup>3</sup><br>NO <sub>x</sub> = 17.2 to 24.6 µg/m <sup>3</sup><br>CO = 0.48 to 1.8 mg/m <sup>3</sup> | PM <sub>2.5</sub> - 26.9 to 50.8 µg/m <sup>3</sup><br>PM <sub>10</sub> - 52.6 to 86.2 µg/m <sup>3</sup><br>SO <sub>2</sub> - 5.77 to 12.30 µg/m <sup>3</sup><br>NO <sub>2</sub> - 13.47 to 27.17 µg/m <sup>3</sup><br>CO - BDL to 0.92 mg/m <sup>3</sup> |

| Period                                 | December, 2019 to February, 2020   | Additional one month data for Revalidation (May, 2021)   |
|--|--|--|
| AAQ modeling (Incremental GLC)         | PM <sub>10</sub> = 9.21 µg/m <sup>3</sup><br>SO <sub>2</sub> = 7.40 µg/m <sup>3</sup><br>NO <sub>x</sub> = 10.5 µg/m <sup>3</sup>  | PM - 0.798 µg/m <sup>3</sup> (50m/ East)<br>SO <sub>2</sub> - 1.31 µg/m <sup>3</sup> (100m/ East)<br>NO <sub>x</sub> - 2.02 µg/m <sup>3</sup> (100m/ East) |
| Ground water quality at 08 locations   | pH: 7.51 to 7.8,<br>Total Hardness: 40 to 256 mg/l,<br>Chlorides: 4.3 to 7.2 mg/l,<br>Fluoride: <0.1 to 0.61 mg/l.<br>Heavy metals are within the limits.  | pH - 6.97 to 7.52<br>Total Hardness - 38.8 to 248.32 mg/l<br>Alkalinity - 40.74 to 304 mg/l<br>TDS - 128 to 529 mg/l                                       |
| Surface water quality at 04 locations. | pH: 7.32 to 8.7;<br>DO: 6.22 to 7.9 mg/l and<br>BOD: <1.8 to 2.8 mg/l.<br>COD from 8.0 to 28.0 mg/l  | pH - 7.14 to 7.31<br>BOD- 2.7 to 7.9 mg/l<br>COD - 10 to 27 mg/l<br>TDS - 198 to 257 mg/l  |
| Noise levels (min & max)               | 38.3 to 70.7 dBA for the day time and 33.1 to 66.7 dBA for the Night time  | Noise Level During Day Time - 50.6 to 59.8 Leq dB (A)<br>Noise Level During Night time - 41.8 to 51.3 Leq dB (A)   |
| Traffic assessment study findings      | <ul style="list-style-type: none"> <li>• Transportation of raw material, fuel &amp; finished product will be done by NH -19 (Old NH-2).</li> <li>• Transportation will be done 100% by road.</li> <li>• Due to the proposed project, there will be addition of 195 Trucks and Light motor vehicles in the existing traffic. However, internal and nearby roads will be maintained as and when needed to facilitate transportation.</li> <li>• Proper mitigation measures will be adopted by company to minimize traffic flow to the best possible extent resulting in low level of dust, noise and gaseous emissions.</li> </ul> |  |
| Flora and fauna                        | Fauna: No Schedule - I species have been observed and recorded in the study area.<br>Flora: As per the field survey and List of Flora; no endangered species of flora have been observed   |  |

48.2.10 The details of solid and hazardous waste generation along with its mode of treatment/disposal is furnished as below:

| S. No. | Type of Waste | Waste             | Source                      | Quantity generated | Mode of Treatment / Disposal   |
|--------|---------------|-------------------|-----------------------------|--------------------|--|
| 1.     | SW            | Dust              | Grinding Unit               | -                  | Dust collected from various APCDs will be totally recycled into the process. |
| 2.     | SW            | STP Sludge        | STP                         | 0.1 kg/day         | Will be used as manure for greenbelt development / plantation                |
| 3.     | HW            | Used or Spent Oil | Different sections of Plant | 5 KL/Annum         | Will be sold to CPCB registered recycler                                     |

| S. No. | Type of Waste | Waste | Source      | Quantity generated | Mode of Treatment / Disposal |
|--------|---------------|-------|-------------|--------------------|------------------------------|
|        |               |       | maintenance |                    |                              |

48.2.11 Public Consultation:

|                                |   |
|--------------------------------|---|
| Details of advertisement given | “The Times of India”, “Rashtriya Sahara”, “Hindustan Times”, “Aaj” and “Hindustan” on dated 26 <sup>th</sup> Aug., 2020 |
| Date of public consultation    | 29 <sup>th</sup> September, 2020 at 11:00 am  |
| Venue                          | Auditorium of Durgawati, Block Office, District - Kaimur (Bihar)  |
| Presiding Officer              | Shri Arvind Kumar (Additional District Magistrate)  |
| Major issues raised            | 1. Employment<br>2. Environment & Pollution   |

**Action plan as per MoEF&CC O.M. dated 30/09/2020:**

| S No  | Concerns raised during the Public Hearing | Physical activity to be done   | Unit of Measurement   |                         |                         | Tentative Budget (Rs. in lacs) |
|---|---|--|-----------------------|-------------------------|-------------------------|--------------------------------|
|   |   |  | 01 <sup>st</sup> Year | 02 <sup>nd</sup> Year   | 03 <sup>rd</sup> Year   |                                |
| 1.  | Skill Development                         | Establishment of Skill development training centre in Village Kurari | -                     | 1 Nos. (Village Kurari) | 1 Nos. (Village Bheria) | 130                            |
| 2.  | Plantation                                | Plantation on Road connecting to NH                                  | 500 Nos.              | 500 Nos.                | 500 Nos.                | 10                             |
|   |   | Plantation in nearby villages  | 500 (Village Kurari)  | 500 (Village Bhanpur)   | 500 (Village Karnapura) | 10                             |
| <b><i>The total cost allocated for the Socio-economic developmental activities which will be a part of Environment Management Plan.</i></b> |   |  |                       |                         |                         | <b>150</b>                     |

*\*The above action plan will be implemented during project implementation phase. Zero date will start from the date of construction start for the proposed project.*

*\*\*The activities given in the above table are excluding the Pollution Control and mitigation measures which are included in EMP Cost [i.e. Capital Cost: Rs. 225 Lacs & Annual Recurring Cost: Rs 24 Lacs /annum]*

48.2.12 The capital cost of the project is Rs. 4556.73 lakhs and the capital cost for environmental protection measures is proposed as Rs. 225 lakhs. The annual recurring cost towards the environmental protection measures is proposed as Rs. 24 lakhs. The employment

generation from the proposed Grinding unit will be around 45 persons. The details of cost for environmental protection measures are as follows:

| Particular   | Capital Cost (in Lacs) | Recurring Cost / annum (in Lacs) |
|--|------------------------|----------------------------------|
| Air Pollution Control                                      | 144                    | 10                               |
| Water Pollution Control and Rain Water Harvesting Measures | 16                     | 2.5                              |
| Noise Pollution  | 10                     | 1.5                              |
| Environment Monitoring and management                      | 15                     | 6.0                              |
| Greenbelt Development                                      | 15                     | 2.5                              |
| Others (Housekeeping)                                      | 25                     | 1.5                              |
| <b>Total(A)</b>  | <b>225</b>             | <b>24</b>                        |
| Addressed to public hearing issues (B)                     | 150                    | Nil                              |
| <b>Total Cost of EMP (A+B)</b>                             | <b>375</b>             | <b>24</b>                        |

48.2.13 Greenbelt will be developed in 1.36 acre which is about 33% of the total project area (4.08 acre). A 20 m wide greenbelt, consisting of at least 3 tiers around plant boundary will be developed as greenbelt and green cover as per CPCB/MoEF&CC, New Delhi guidelines. Local and native species will be planted with a density of 2500 trees per hectare. Total no. of 3400 saplings will be planted and nurtured in 1.36 acre in 3 years.

48.2.14 The proponent has reported that there is no violation under EIA Notification, 2006/court case/show cause/direction related to the project under consideration.

48.2.15 The earlier Final EIA / EMP Report along with environmental baseline study during Winter Season (Dec., 2019 to Feb., 2020) was prepared and submitted to MoEFCC, New Delhi for Environmental Clearance by M/s. Visiontek Consultancy Services Private Limited. M/s. J.M. EnviroNet Pvt. Ltd. has only reviewed the Final EIA / EMP Report and revalidated the Baseline Study by conducting one-month additional baseline study during May, 2021. Name of the EIA consultant: J.M. EnviroNet Pvt. Ltd [S. No.44, List of ACOs with their Certificate no. NABET/EIA/2023/RA 0186, valid up to 07/03/2023; Rev. 15, October 11, 2021].

48.2.16 M/s. Mittaltech Steel & Cement Private Limited has earlier made an online application vide proposal no. IA/BR/IND/188922/2020 dated 04/02/2021. The proposal was considered in 31<sup>st</sup> meeting of the Re-constituted EAC (Industry-I) held on 25<sup>th</sup>-26<sup>th</sup> February, 2021. The observations and recommendations of EAC is given as below:

**Observations of the Committee held on 25<sup>th</sup> -26<sup>th</sup> February, 2021**

48.2.17 The Committee noted the following:

- i. Raw material requirement for 0.6 MTPA cement grinding unit is shown as 1.1 MTPA which is inconsistent from the point of view of material balance.
- ii. Particulate Matter (PM) emissions taken in calculations for Air quality modelling is more than 63 mg/Nm<sup>3</sup>, while the specified norm for PM emissions is less than 30 mg/Nm<sup>3</sup>. In view of this, AAQ modelling needs to be redone.
- iii. PP reported that Hot Air Generator (HAG) ash shall be used in cement making which is not appropriate.

- iv. Emission levels of SO<sub>2</sub> and NO<sub>x</sub> from HAG as reported by PP are high and should be checked.
- v. Justification for selecting location of AAQ stations needs to be furnished.
- vi. Table 3.5 of EIA report depicts that PM<sub>10</sub> levels are high in the study area. No explanation is provided for the same.
- vii. Noise levels have been monitored 3.84 km away from plant where there is going to be no impact of the proposed plant.
- viii. Action plan to check fugitive emission has not been furnished.
- ix. Action plan with physical targets to address the issues raised during public hearing as per MoEF&CC O.M. dated 30/09/2020 needs to be furnished.
- x. As per the surface water analysis report of SW1 and SW2 samples, the data indicates high coliform 33000 MPN/100ml, BOD - less than 2 mg/lit and DO is reported as 7.9 mg/lit. In view of this, fresh analysis of surface water samples needs to be carried out.
- xi. Post project monitoring schedule needs to be revisited as the Performance monitoring of APCD is not included.
- xii. Project benefits have not been quantified as required under Chapter 8 of the EIA report.
- xiii. TOR point number 9 pertaining to Corporate Environment Policy has not been complied with.
- xiv. EIA report prepared as well as presentation made by the EIA consultant is of poor quality and requires improvement. The consultant was warned to improve the quality of the EIA report as well as presentation.

**Recommendations of the Committee held on 25<sup>th</sup> -26<sup>th</sup> February, 2021**

- 48.2.18 In view of the aforesaid observations, the Committee after deliberations, recommended to return the proposal in its present form for addressing the shortcomings as listed above.
- 48.2.19 M/s. Mittal Tech Steel and Cement Pvt. Ltd. has again made an online application vide proposal no. IA/BR/IND/136756/2020 dated 16/10/2021. The proposal was considered in 48<sup>th</sup> meeting of the Re-constituted EAC (Industry-I) held on 11- 12<sup>th</sup> November, 2021. The observations and recommendations of EAC is given as below:
- 48.2.20 During the meeting, project proponent submitted written submission on the following points:
- PP submitted the clarification regarding followings:
    - a). The main reason for reduction in incremental GLC for PM, SO<sub>2</sub> & NO<sub>x</sub> in the updated EIA report is due to the reduced input emission rates from the process stacks. The said emission rates have been calculated based on the permissible norms.
    - b). The selection criteria for additional base line data were different from previous because the new air locations as per the CPCB guidelines and noise locations within 3km radius of the study area.
    - c). As per revised environment policy, any noncompliance found shall be reported to the whole time director by the Unit Head.
  - PP committed that PTFE membrane bags with bag house shall be installed and green belt will be developed in a time span of one year.
  - PP clarify that the numbers of truck inward is 128, and only 67 trucks will be used for clinker, cement and slag disposal. Rest of the truck (61 trucks) will be used for fly ash

(21 trucks), Gypsum (4 trucks), coal (2 trucks) and slag (34 trucks) will be sent back empty after disposal.

- The source of water will be ground water (5.0 KLD) thus permission of CGWA is not required. PP will also seek the option of taking water through tankers in lieu of ground water.
- PP submitted that the approach road connecting to NH-2 is already capable of bearing the additional load but will strengthen the approach road during the operation phase.

#### **Observations of the Committee**

48.2.21 The Committee noted the following:

- i. The proposed project activity is listed at Schedule 3(b) under Category “B” of the schedule of the EIA Notification, 2006 and attracts general condition due to presence of inter-state boundary of Bihar and Uttar Pradesh within 5 km radius of the plant site at a distance of 4.0 km in NW direction, thus the proposal was appraised at central level.
- ii. The Committee noted that the EIA/EMP report is in compliance of the ToR issued for the project, reflecting the present environmental concerns and the projected scenario for all the environmental components. The Committee has also found that the baseline data and incremental GLC due to the proposed project within NAAQ standards.
- iii. Written submissions made by PP during course of meeting have been deliberated upon by the EAC and found it satisfactory.

#### **Recommendations of the Committee**

48.2.22 In view of the foregoing and after detailed deliberations, the committee recommended the instant proposal for grant of Environment Clearance under the provisions of EIA Notification, 2006 subject to the stipulation of specific conditions and general conditions as per the Ministry’s Office Memorandum No. 22-34/2018-III dated 9/8/2018 based on project specific requirements.

##### **A. Specific condition**

- i. Green belt shall be developed in 33% of the total area all along the entire periphery of the area with a density of 2500 trees per ha by 31<sup>st</sup> December, 2022 as committed. This shall include development of green belt with a width of 20 m within the project site towards Kurari village located at distance of 50m from the project site.
- ii. Particulate matter emission from all the stacks shall not exceed 30 mg/Nm<sup>3</sup>.
- iii. Rain Water harvesting shall be implemented as per the action plan submitted in the EIA report.
- iv. All stockyards shall be having impervious flooring and shall be equipped with water spray system for dust suppression. Stock yards shall also have garland drains to trap the run off material.
- v. Slip roads shall be provided at the gates and along crossings on main roads.
- vi. All internal and connecting road to the Highway shall be black topped/ concreted with suitable load in term of Million Standard Axle (MSA) as per IRC guideline and completed by 31<sup>st</sup> December 2021.
- vii. Prior permission of the Competent Authority shall be obtained for withdrawal of 5 KLD of ground water from the bore well.

## **B. General conditions**

### **I. Statutory compliance:**

- i. The Environment Clearance (EC) granted to the project/ activity is strictly under the provisions of the EIA Notification, 2006 and its amendments issued from time to time. It does not tantamount/ construe to approvals/ consent/ permissions etc., required to be obtained or standards/conditions to be followed under any other Acts/Rules/Subordinate legislations, etc., as may be applicable to the project.

### **II. Air quality monitoring and preservation**

- i. The project proponent shall install 24x7 Continuous Emission Monitoring System (CEMS) at process stacks to monitor stack emission with respect to standards prescribed in Environment (Protection) Rules 1986 as amended from time to time. The CEMS shall be connected to SPCB and CPCB online servers and calibrate these systems from time to time according to equipment supplier specification through labs recognized under Environment (Protection) Act, 1986 or NABL accredited laboratories.
- ii. The project proponent shall install system carryout to Ambient Air Quality monitoring for common/criterion parameters relevant to the main pollutants released (e.g. PM<sub>10</sub> and PM<sub>2.5</sub> in reference to PM emission, and SO<sub>2</sub> and NO<sub>x</sub> in reference to SO<sub>2</sub> and NO<sub>x</sub> emissions) within and outside the plant area at least at four locations (one within and three outside the plant area at an angle of 120° each), covering upwind and downwind directions.
- iii. The project proponent shall monitor fugitive emissions in the plant premises at least once in every quarter through labs recognized under Environment (Protection) Act, 1986.
- iv. The project proponent shall provide leakage detection and mechanized bag cleaning facilities for better maintenance of bags.
- v. The project proponent shall ensure covered transportation and conveying of raw material to prevent spillage and dust generation; Use closed bulkers for carrying fly ash.
- vi. The project proponent shall provide wind shelter fence and chemical spraying on the raw material stock piles;
- vii. Ventilation system shall be designed for adequate air changes as per the prevailing norms for all tunnels, motor houses, and cement bagging plants.

### **III. Water quality monitoring and preservation**

- i. The project proponent shall regularly monitor ground water quality at least twice a year (pre- and post-monsoon) at sufficient numbers of piezometers/sampling wells in the plant and adjacent areas through labs recognized under Environment (Protection) Act, 1986 and NABL accredited laboratories.
- ii. Sewage Treatment Plant shall be provided for treatment of domestic wastewater to meet the prescribed standards.
- iii. Garland drains and collection pits shall be provided for each stock pile to arrest the run-off in the event of heavy rains and to check the water pollution due to surface run off
- iv. Water meters shall be provided at the inlet to all unit processes in the cement plant.
- v. The project proponent shall make efforts to minimize water consumption in the cement plant complex by segregation of used water, practicing cascade use and by

recycling treated water.

**IV. Noise monitoring and prevention**

- i. Noise quality shall be monitored as per the prescribed Noise Pollution (Regulation and Control) Rules, 2000 and report in this regard shall be submitted to Regional Officer of the Ministry as a part of six-monthly compliance report.

**V. Energy Conservation measures**

- i. Provide solar power generation on roof tops of buildings, for solar light system for all common areas, street lights, parking around project area and maintain the same regularly.
- ii. Provide the project proponent for LED lights in their offices and residential areas.
- iii. Maximize utilization of fly ash, slag and sweetener in cement blend as per BIS standards.

**VI. Green Belt**

- i. The project proponent shall prepare GHG emissions inventory for the plant and shall submit the Programme for reduction of the same including carbon sequestration by trees in the plant premises.

**VII. Public hearing and Human health issues**

- i. Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented.
- ii. The project proponent shall carry out heat stress analysis for the workmen who work in high temperature work zone and provide Personal Protection Equipment (PPE) as per the norms.
- iii. Occupational health surveillance of the workers shall be done on a regular basis and records maintained.

**VIII. Environment Management**

- i. The project proponent shall comply with the provisions contained in this Ministry's OM vide F.No. 22-65/2017-IA.III dated 30/09/2020.
- ii. The company shall have a well laid down environmental policy duly approved by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental / forest / wildlife norms / conditions. The company shall have defined system of reporting infringements / deviation / violation of the environmental / forest / wildlife norms / conditions and / or shareholders / stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report.
- iii. A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly to the head of the organization.

**IX. Miscellaneous**

- i. The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of

- which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.
- ii. The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.
  - iii. The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.
  - iv. The project proponent shall monitor the criteria pollutants level namely; PM<sub>10</sub>, SO<sub>2</sub>, NO<sub>x</sub> (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the projects and display the same at a convenient location for disclosure to the public and put on the website of the company.
  - v. The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.
  - vi. The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.
  - vii. The project proponent 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, commencing the land development work and start of production operation by the project.
  - viii. The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.
  - ix. No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC).
  - x. Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.
  - xi. The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.
  - xii. The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.
  - xiii. The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.
  - xiv. Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

48.3 Proposed Expansion of Clinkerisation Plant (4.0 to 8.0 MTPA) along with Captive Power Plant (55 to 160 MW) by **M/s. UltraTech Cement Limited** located at Village Vayor, Taluka- Abdasa, **District Kutch, Gujarat** [Online Proposal No. IA/GJ/IND/113014/2015, File No. J-11011/398/2007-IA.II(I)]– **Reconsideration for Environment Clearance based on ADS reply– regarding**

48.3.1 M/s. UltraTech Cement Limited (Unit: Sewagram Cement Works) has made an online application vide proposal no. IA/GJ/IND/113014/2015 dated 02/08/2019 along with copy of EIA/EMP Report and Form- 2 seeking Environment Clearance (EC) under the provisions of the EIA Notification, 2006 for the project mentioned above. The proposed project activity is listed at schedule no. '3(b)' Cement Plants and 1(d) Thermal Power Plants Under Category "A" of the schedule of the EIA Notification, 2006 and appraised at Central level.

**Details submitted by Project proponent**

48.3.2 The details of the ToR are furnished as below:

| Date of application | Consideration  | Details                   | Date of accord |
|---------------------|--|---------------------------|----------------|
| 16/02/2015          | 35 <sup>th</sup> meeting of EAC held on 27 <sup>th</sup> March, 2015   | Terms of Reference        | 05/08/2015     |
| 02/07/2018          | 34 <sup>th</sup> meeting of EAC held on 6-7 <sup>th</sup> August, 2018 | Extension validity of ToR | 16/08/2018     |

48.3.3 The project of M/s. UltraTech Cement Limited (Unit: Sewagram Cement Works) located in Village: Vayor, Taluka: Abdasa, District: Kutch, Gujarat is for expansion of Clinkerization Plant for production of Clinker (4.0 to 8.0 MTPA) along with Captive Power Plant (55 to 160 MW).

48.3.4 Environmental Site Settings:

| SNo  | Particulars   | Details   | Remarks  |
|------|---|---|--|
| i.   | Total land  | 699.85 ha (already converted to industrial); out of which, the total utilized area for Cement Plant & Colony is 320 ha including the area proposed for the expansion of Cement Plant and Captive Power Plant. | Land use: Industrial.                                      |
| ii.  | Land acquisition details as per MoEFCC O.M. dated 7/10/2014 | Expansion project is proposed in existing project area of 699.85 ha. No additional land area is required for proposed expansion. Total land is completely under the possession of the company.                | -  |
| iii. | Existence of habitation & involvement of R&R, if any        | No habitation exists within the plant site and R & R is not applicable.   | Total project area is under the possession of the company. |
| iv.  | Latitude and Longitude of the project site                  | Latitude: 23°24' 38.80" N to 23°27' 15.83" N<br>Longitude: 68°40' 51.38" E to 68°43' 45.91" E   | --   |
| v.   | Elevation of the project site                               | 105 m AMSL  | --   |

| SNo   | Particulars  | Details   | Remarks |
|-------|--|---|---------|
| vi.   | Involvement of Forest land if any.   | No Forest Land is Involved in the project area.   | --      |
| vii.  | Water body exists within the project site as well as study area  | <b>Project site:</b> Nil.<br><b>Study area:</b><br><ul style="list-style-type: none"> <li>• Khari River (0.5 km/ E)</li> <li>• Rakhadi Nadi (1.5 km/W)</li> <li>• Barkhan Nadi (2.5 km/S)</li> <li>• Berwall Nadi (3.5 km/NW)</li> <li>• Bhalyawal Talav (5.5 km/W)</li> <li>• Golay Nadi (8.5 km/WNW)</li> <li>• Kasadwali Nadi (9.0 km/NW)</li> </ul> | --      |
| viii. | Existence of ESZ/ ESA/ national park/ wildlife sanctuary/ biosphere reserve/ tiger reserve/ elephant reserve etc. if any within the study area | ESZ boundary of Narayan Sarovar Wildlife Sanctuary is at a distance of 9.1 km in North direction. However, the following forests are located in the study area:<br>Harudi RF: 5.5 km/ NNW<br>Maniara RF: 6.0 km/ NW   | -       |

48.3.5 The EC was originally issued to M/s. Gujarat Anjan Cement Ltd. vide letter dated 04/08/2008 for Cement Plant - Clinker (4.0 MTPA), Cement (7.2 MTPA), CPP (70 MW) and Desalination Plant (4500 KLD). Due to change name of the company, EC was transferred from M/s. Gujarat Anjan Cement Ltd to M/s. Jaiprakash Associate Ltd vide letter dated on 15/04/2011. Company has again changed the name from M/s. Jaiprakash Associate Ltd to M/s. Jaypee Cement Corporation Ltd, accorded the EC was transferred vide letter dated 05/09/2014 in favor of M/s. Jaypee Cement Corporation Limited. Further, M/s. UltraTech Cement Limited (Unit: Sewagram Cement Works) took over this plant along with associated mines in June, 2014 and the same was transferred in the name of M/s. UltraTech Cement Ltd. dated on 22/07/2015.

CRZ clearance for 6700 KLD desalination plant is accorded to CRZ clearance vide letter no 11-48/2012-IA.III dated 10/01/2013.

Consent to operate for the existing unit was accorded by GPCB for Cement Plant vide consent order no. AWH-98120 dated 25/12/2018 and valid till 12/12/2023.

48.3.6 Implementation status of the existing EC dated 04/08/2008 and 15/04/2011:

| S. No. | Facilities   | Units | As per EC dated 04/08/2008 & 15/04/2011 | Implementation Status as on date | Production as per CTO |
|--------|--------------|-------|---|----------------------------------|-----------------------|
| 1.     | Clinker      | MTPA  | 4.0                                     | Implemented                      | 4.0 MTPA              |
| 2.     | Cement       | MTPA  | 7.2                                     | 5.0 MTPA is implemented          | 5.0 MTPA              |
| 3.     | CPP          | MW    | 70                                      | Only 55 MW is installed          | 55 MW                 |
| 4.     | Desalination | KLD   | 6700                                    | Implemented                      | 6700 KLD              |

| S. No. | Facilities | Units | As per EC dated 04/08/2008 & 15/04/2011 | Implementation Status as on date | Production as per CTO |
|--------|------------|-------|---|----------------------------------|-----------------------|
|        | Plant      |       |   |                                  |                       |
| 5.     | DG Set     | MW    | 20 (As per CCA)                         | Implemented                      | 20 MW                 |

48.3.7 The unit configuration and capacity of existing and proposed project is given as below:

| SNo | Particular         | Unit | Existing Granted Capacity as per EC dated 04.08.2008 | Additional Proposed Capacity | Total Capacity After Expansion |
|-----|--------------------|------|--|------------------------------|--------------------------------|
| 1.  | Clinker            | MTPA | 4.0  | 4.0                          | 8.0*                           |
| 2.  | Cement             | MTPA | 7.2  | Nil                          | 7.2                            |
| 3.  | CPP                | MW   | 70**   | 105                          | 160                            |
| 4.  | Desalination Plant | KLD  | 6700   | Nil                          | 6700                           |
| 5.  | D.G. Set           | MW   | 20 (As per Consent)                                  | Nil                          | 20                             |

*\*Note: Clinker will also be sent to Sister Grinding Units of UltraTech Cement Ltd. and export to other companies.*  
*\*\* Company has installed 55 MW CPP only and Consent for the same has been obtained from GPCB.*

48.3.8 The details of the raw material requirement for the proposed project along with its source and mode of transportation is given as below:

| S No | Name of Raw Material | Required Quantity (MTPA) |            |                                | Source  | Approx. Distance & Mode of Transportation     |
|------|----------------------|--------------------------|------------|--------------------------------|---|---|
|      |                      | Existing                 | Additional | Total after proposed expansion |   |   |
| 1.   | Limestone            | 6.4                      | 6.4        | 12.8                           | Captive Limestone Mines                       | 1-8 km; Road / Proposed Covered Conveyor Belt |
| 2.   | Clay                 | 0.54                     | 0.54       | 1.08                           | Ashapura China Clay Mines / Captive Clay Mine | 140 km; Road / ~6 km                          |
| 3.   | Laterite             | 0.27                     | 0.27       | 0.54                           | Captive Baranda Laterite Mine                 | 12 km; Road                                   |

48.3.9 Total fresh water requirement for the existing plant is 3220 KLD and additional fresh water requirement for the expansion project will be 3120 KLD. Thus, the total fresh water requirement after expansion will be 6340 KLD; which is being / will be sourced from the Desalination plant of 6700 KLD. CRZ Clearance for Desalinization Plant from 2200 KLD to 6700 KLD was obtained from MoEF&CC, New Delhi vide letter dated 10/01/2013

48.3.10 Existing power requirement for the plant is 55 MW. Additional requirement for expansion project is 70 MW. Thus, the total power requirement after proposed expansion will be about

125 MW; which is being / will be sourced from 160 MW Captive Power Plant & D.G. Set of 20 MW (for back-up).

48.3.11 Baseline Environmental Studies:

| Period                                       | Post-Monsoon Season (October to December, 2017)  |                         |                       |                         |                    |     |         |        |     |      |               |      |                       |                         |                    |     |         |        |     |      |               |
|--|--|-------------------------|-----------------------|-------------------------|--------------------|-----|---------|--------|-----|------|---------------|------|-----------------------|-------------------------|--------------------|-----|---------|--------|-----|------|---------------|
| AAQ parameters at 09 locations (min and max) | PM <sub>2.5</sub> = 27.3 to 46.5 µg/m <sup>3</sup><br>PM <sub>10</sub> = 56.9 to 89.8 µg/m <sup>3</sup><br>SO <sub>2</sub> = 6.1 to 12.3 µg/m <sup>3</sup><br>NO <sub>2</sub> = 13.9 to 24.4 µg/m <sup>3</sup><br>CO = BDL   |                         |                       |                         |                    |     |         |        |     |      |               |      |                       |                         |                    |     |         |        |     |      |               |
| AAQ modelling (Incremental GLC)              | PM <sub>10</sub> = 1.98 µg/m <sup>3</sup> (at 382.68 m to 923.88 m in SW)<br>SO <sub>2</sub> = 4.91 µg/m <sup>3</sup> (at 382.68 m to 923.88 m in SW)<br>NO <sub>x</sub> = 6.45 µg/m <sup>3</sup> (at 382.68 m to 923.88 m in SW)  |                         |                       |                         |                    |     |         |        |     |      |               |      |                       |                         |                    |     |         |        |     |      |               |
| Ground water quality at 08 locations         | pH: 7.25 to 8.08<br>Total Hardness: 102.0 to 1581.0 mg/l<br>Chlorides: 201.86 to 2275.58 mg/l<br>Fluoride: 0.78 to 1.90 mg/l<br>Heavy metals were found below detection limit.   |                         |                       |                         |                    |     |         |        |     |      |               |      |                       |                         |                    |     |         |        |     |      |               |
| Surface water quality                        | Surface water samples were not collected as all the water bodies are seasonal and were found dry during the study period.  |                         |                       |                         |                    |     |         |        |     |      |               |      |                       |                         |                    |     |         |        |     |      |               |
| Noise levels (min and max)                   | Noise Level During Day Time - 51.9 to 60.1 Leq dB (A)<br>Noise Level During Nighttime - 41.5 to 55.3 Leq dB (A)  |                         |                       |                         |                    |     |         |        |     |      |               |      |                       |                         |                    |     |         |        |     |      |               |
| Traffic assessment study findings            | <ul style="list-style-type: none"> <li>• Traffic survey was conducted for 24 hours at NH- 8A (Naliya - Narayan Sarovar Road) which is approximately adjacent from the plant site.</li> <li>• Transportation of raw material, fuel &amp; finished product will be done 100% by road (NH-8A).</li> <li>• Existing PCU is 127.27 PCU/hr on NH-8A and existing level of service is: <table border="1"> <thead> <tr> <th>Road</th> <th>V (Volume in PCU/hr.)</th> <th>C (Capacity in PCU/hr.)</th> <th>Existing V/C Ratio</th> <th>LOS</th> </tr> </thead> <tbody> <tr> <td>NH - 8A</td> <td>127.27</td> <td>625</td> <td>0.21</td> <td>B (very good)</td> </tr> </tbody> </table> </li> <li>• PCU load after proposed project commenced is 127.27 + 90.87 = 218.14 PCU/hr and level of service will be: <table border="1"> <thead> <tr> <th>Road</th> <th>V (Volume in PCU/hr.)</th> <th>C (Capacity in PCU/hr.)</th> <th>Existing V/C Ratio</th> <th>LOS</th> </tr> </thead> <tbody> <tr> <td>NH - 8A</td> <td>218.14</td> <td>625</td> <td>0.29</td> <td>B (very good)</td> </tr> </tbody> </table> </li> </ul> <p>The level of service will remain same after including additional traffic due to proposed project.</p> | Road                    | V (Volume in PCU/hr.) | C (Capacity in PCU/hr.) | Existing V/C Ratio | LOS | NH - 8A | 127.27 | 625 | 0.21 | B (very good) | Road | V (Volume in PCU/hr.) | C (Capacity in PCU/hr.) | Existing V/C Ratio | LOS | NH - 8A | 218.14 | 625 | 0.29 | B (very good) |
| Road   | V (Volume in PCU/hr.)  | C (Capacity in PCU/hr.) | Existing V/C Ratio    | LOS                     |                    |     |         |        |     |      |               |      |                       |                         |                    |     |         |        |     |      |               |
| NH - 8A                                      | 127.27   | 625                     | 0.21                  | B (very good)           |                    |     |         |        |     |      |               |      |                       |                         |                    |     |         |        |     |      |               |
| Road   | V (Volume in PCU/hr.)  | C (Capacity in PCU/hr.) | Existing V/C Ratio    | LOS                     |                    |     |         |        |     |      |               |      |                       |                         |                    |     |         |        |     |      |               |
| NH - 8A                                      | 218.14   | 625                     | 0.29                  | B (very good)           |                    |     |         |        |     |      |               |      |                       |                         |                    |     |         |        |     |      |               |
| Flora and Fauna                              | Two Schedule - I species i.e. Indian Peafowl ( <i>Pavocristatus</i> ) and Chinkara ( <i>Gazella bennettii</i> ) were found within 10 km radius of the study area. Wildlife Conservation Plan for both the species has been approved by CWW, Gandhinagar (Gujarat) vide letter dated 06/07/2021.  |                         |                       |                         |                    |     |         |        |     |      |               |      |                       |                         |                    |     |         |        |     |      |               |

48.3.12 The details of solid and hazardous waste generation along with its mode of treatment/disposal is furnished as below:

| S No | Type of Waste | Waste               | Source                                  | Quantity generated | Mode of Treatment / Disposal   |
|------|---------------|---------------------|---|--------------------|--|
| 1.   | SW            | Dust                | Cement Plant                            | -                  | Dust collected from various APCDs will be totally recycled into the process. |
| 2.   | SW            | Fly ash             | CPP                                     | 561 TPD            | Used in Cement manufacturing process   |
| 3.   | SW            | STP Sludge          | STP                                     | 350 Kg / Month     | Used as manure for greenbelt development / plantation                        |
| 4.   | HW            | Used Oil (Cat. 5.1) | Different sections of Plant maintenance | 200-250 KL/Annum   | Disposed of to CPCB registered recycler.                                     |

48.3.13 Public Consultation:

|                                |   |
|--------------------------------|---|
| Details of advertisement given | “Kutch Mitra”, “Gujarat Mitra” and “The Times of India” on 10/01/2019   |
| Date of public consultation    | 12/02/2019  |
| Venue                          | Sewagram Cement Works Colony, Opp. M/s. UltraTech Cement Limited, (Koteshwar Gate), Near National Highway 8 A, Village. Vayor, Ta. Abdasa, Dist. Kutch.   |
| Presiding Officer              | Shri KuldipsinhJhala (G.A.S), Resident Additional Collector and Additional District Magistrate, Kutch as representative of District Magistrate and District Collector, Kutch supervised and presided over the entire proceedings. |
| Major issues raised            | 1. Employment<br>2. Pollution<br>3. Education<br>4. Health Related<br>5. CSR Related<br>6. Road Related   |

**Action plan as per MoEF&CC O.M. dated 30/09/2020:**

| S. No. | Physical Activities to be done                              | Target of Implementation of Action Plan (Yr.)          |                      |                      | Budget (Rs. Lacs) |
|--------|---|--|----------------------|----------------------|-------------------|
|        |   | 1 <sup>st</sup> year                                   | 2 <sup>nd</sup> Year | 3 <sup>rd</sup> Year |                   |
| 1      | School furniture (Chairs-Benches)                           | Village Kharai   | Village Fulay        | -                    | 1.2               |
| 2      | Para Teacher (02) provided in Govt. School (Continue basis) | Village Vyor, Kharai, Fulay, & Baranda                 |                      |                      | 18.8              |
| 3      | School Bus facilities in School (Continue)                  | Village Vyor, Kharai, Charopadi, Fulay, Baranda & Ukir |                      |                      | 17.29             |

| S. No. | Physical Activities to be done   | Target of Implementation of Action Plan (Yr.)  |   |   | Budget (Rs. Lacs) |
|--------|--|--|---|---|-------------------|
|        |  | 1 <sup>st</sup> year   | 2 <sup>nd</sup> Year                                | 3 <sup>rd</sup> Year                              |                   |
|        | process on request basis)  |  |   |   |                   |
| 4      | Water cooler for school  | -  | Village Ukir  | -   | 0.5               |
| 5      | Toilet Construction  | Village Vyor (50 nos)  | Village Kharai (50 nos)<br>Village Baranda (25 nos) | Village Ukir (50 nos)<br>Village Baranda (25 nos) | 15                |
| 6      | CC Road / Paved Road Development   | -  | Village Vyor (1000 m)                               | Village Charopadi (1000 m)                        | 55                |
| 7      | Repairing of School roof ceiling   | -  | Village Vyor (1 school)                             | -   | 3.5               |
| 8      | Renovation of Panchayat Office   | Village Kharai   | -   | -   | 5.5               |
| 9      | Renovation of School building  | -  | Village Kharai                                      | -   | 5.5               |
| 10     | Repairs of Community centre  | -  |   | Village Charopadi                                 | 6.5               |
| 11     | Repairing & Painting of Aanganbadi   | Village Vyor (1 school)  | -   | Village Kharai (1 school)                         | 8                 |
| 12     | Supply of Drinking Water Facility through tanker in village including school   | Village Vyor (1000 KL/Month continue basis),<br>Village Kharai (1200 KL/month continue basis),<br>Village Fulay (800 KL/month continue basis) and<br>Village Baranda (600 KL/month continue basis) |   |   | 24.3              |
| 13     | Construction of Drinking water tank  | Village Barana (30 KL)   | -   | Village Ukir (30 KL)                              | 8                 |
| 14     | Check Dam repair as water reservoir  | Village Baranda  | Village Vyor  | Village Kharai & Village Charopadi                | 14                |
| 15     | Renovations of ponds for Rain Water Harvesting Structures / Roof top water harvesting / Pond deepening in Schools/ Panchayat buildings | Village Charopadi  | Village Kharai & Village Fulay                      | Village Vyor & Village Ukir                       | 25                |
| 16     | Well Repair  | -  | -   | Village Kharai                                    | 3.5               |
| 17     | Establishment of Sewing & Tailoring Centre / garment center  | Village Vyor   | Village Ukir  | Village Kharai                                    | 9                 |
| 18     | Construction of Village entry gate   | -  | Village Vyor  | Village Kharai                                    | 8                 |

| S. No.       | Physical Activities to be done                                   | Target of Implementation of Action Plan (Yr.)      |  |                              | Budget (Rs. Lacs) |
|--------------|--|--|--|------------------------------|-------------------|
|              |  | 1 <sup>st</sup> year                               | 2 <sup>nd</sup> Year                                   | 3 <sup>rd</sup> Year         |                   |
| 19           | Construction of Cattle Manger                                    | Village Kharai                                     | Village Baranda  | -                            | 5                 |
| 20           | School boundary wall construction                                | -  | Village Charopadi (1 school)                           | -                            | 3                 |
| 21.          | Providing tricycles to the physically challenge people (10 nos.) | Village Fulay (10 nos)                             | -  | -                            | 3.3               |
| 22.          | Installation of Street light in coordination with Govt.          | Village Vyor                                       | Village Baranda  | Village Ukir                 | 3                 |
| 23.          | Distribution of tree saplings to villagers                       | Village Vyor (1000 nos) & Village Fulay (1000 nos) | Village Kharai (1000 nos) & Village Baranda (1000 nos) | Village Charopadi (1000 nos) | 5                 |
| <b>Total</b> |  |  |  |                              | <b>247.89</b>     |

\* The above action plan will be implemented during project implementation phase. Zero date will be the start of construction work of project

48.3.14 The capital cost of the project is Rs. 1500 Crores\* and the capital cost for environmental protection measures is proposed as Rs. 90 Crores. The annual recurring cost towards the environmental protection measures is proposed as Rs. 15 Crores. The employment generation from the proposed expansion project is 791 persons (regular and contractual); thus, the total manpower after expansion (including existing and additional requirement) will be 2370 persons. The details of cost for environmental protection measures are as follows:

| S No         | Description of Item                                     | Existing (Rs. in Crores) |                |
|--------------|---|--------------------------|----------------|
|              |   | Capital Cost             | Recurring Cost |
| i.           | Air Pollution Control                                   | 84                       | 12.5           |
| ii.          | Water Pollution Control & Rainwater Harvesting Measures | 1.5                      | 0.35           |
| iii.         | Green Belt Development                                  | 1.0                      | 0.50           |
| iv.          | Environmental Monitoring and Management                 | 3.5                      | 1.65           |
| <b>Total</b> |   | <b>90</b>                | <b>15</b>      |
| vi.          | Addressal of Public Consultation concerns               | <b>247.89 Lakhs</b>      |                |

\* Note: Project cost of Rs: 3500 Crores was proposed at the time of project proposal. Considering recent project commissioning cost of the projects of the company, the project cost has been revised.

48.3.15 Total plant area is 699.85 ha; out of which 232.0 ha area (i.e. 33% of the total plant area) will be developed under greenbelt. Out of 232 ha an area of 120.30 ha has already been developed under greenbelt and remaining 111.70 ha area is proposed to be developed under greenbelt. Total green belt area will be developed with tree density of 2500 trees/ ha within 5 years.

48.3.16 The proponent has reported that there is no violation under EIA Notification, 2006/court case/show cause/direction related to the project under consideration:

48.3.17 Name of the EIA consultant: M/s. J.M. EnviroNet Pvt. Ltd [S. No.44, List of ACOs with their Certificate no. NABET/EIA/2023/RA 0186, valid up to 07/03/2023; Rev. 15, October 11, 2021].

**Certified compliance report from Regional Office**

48.3.18 The Status of compliance of earlier Environment & CRZ clearance was originally obtained from Regional Office, MoEF&CC (WZ), Bhopal on 10/08/2016. Subsequently, PP has obtained another certified report from RO on 07/07/2020 with respect to EC dated 4/08/2008 and on 10/08/2020 with respect to the CRZ clearance dated 11/01/2013. PP has submitted the action taken report on the observed non-compliance's on 05/05/2021 which has been evaluated by RO and report submitted to the Ministry on 11/05/2021 with respect to EC dated 4/08/2008 and on 05/04/2021 with respect to the CRZ clearance dated 11/01/2013:

a) Environment Clearance dated 04/08/2008

| S No | Non-compliances details   | Observation of RO (abridged)   | Condition no.                             |          |         | Re-assessment by RO   |
|------|---|--|---|----------|---------|---|
|      |   |  | EC Date                                   | Specific | General |   |
| 1.   | Greenbelt development   | PP needs to concentrate on the greenbelt in the plant area and a time targeted action plan for enhancing the greenbelt in the plant area needs to be submitted within 45 days and implementation of the said action plan shall be reported in six-monthly compliance reports to be submitted to MoEFCC, RO Bhopal for further review.<br><b>Partly Complied.</b> | J-11011/398/2007-IAII(I) dated 04/08/2008 | (x)      | -       | It is noted that unit has total 120.31 ha. Area under green belt. PP planned to enhance the greenbelt in periodic manner majority focusing the area in and around the plant.<br><b>Compliance Under Progress.</b>                                     |
| 2.   | Charter on Corporate Responsibility for Environmental Protection (CREP) | The online values were well within the stipulated norms (except for SO <sub>2</sub> )<br><b>Partly Complied.</b>   | J-11011/398/2007-IAII(I) dated 04/08/2008 | (xi)     | -       | PP has submitted the amendment request to GPCB for amendment in SO <sub>2</sub> & NO <sub>x</sub> standards in line with MoEF Notification dated 09 <sup>th</sup> May, 2016 and request matter is under consideration with GPCB.<br><b>Compliance</b> |

| S No | Non-compliances details   | Observation of RO (abridged)   | Condition no.                             |          |         | Re-assessment by RO  |
|------|---|--|---|----------|---------|--|
|      |   |  | EC Date                                   | Specific | General |  |
|      |   |  |   |          |         | <b>Under Progress.</b>   |
| 3.   | Recommendation of the State Forest Department Chief Wild life and Chief Warden regarding impact of proposed plant on surrounding reserve forest | As per the monitoring results presented by the PP, work place noise levels are seen exceeding the 60 dBA stipulated as per the recommendations of Forest Department.<br><b>Partly Complied.</b>  | J-11011/398/2007-IAII(I) dated 04/08/2008 | (xiii)   | -       | It is noted that work place Noise monitoring results are within the standards given by the GPCB in CCA. However, PP submitted that Limit of 60 dBA is unpractical as the ambient noise limits given for day time and time for industrial area are higher than those recommended by Forest department.<br><b>Partly Complied.</b> |
| 5.   | Implementation of all the earlier EC conditions   | The overall compliance of the stipulated condition is considered as partly complied till the Project Proponent furnished detailed compliance of a environment clearance accorded by the MoEF vide letter No. J-11011/170/2006 LA II(1) dated 8 <sup>th</sup> September, 2006.<br><b>Partly Complied.</b> | J-11011/398/2007-IAII(I) dated 04/08/2008 | (xiv)    | -       | PP has furnished copy of compliance report of environment clearance accorded by the MoEF vide letter No. J-11011/170/2006-IA II(1) dated 8th September, 2006<br><b>Complied</b>  |
| 4.   | The Project authority must adhere to the stipulation made by Gujarat Pollution Control Board (GPCB) and State Government.                       | SO <sub>2</sub> emissions from stack attached to Raw Mill are exceeding the stipulated norms given by GPCB, although the values are well below the standards stipulated by MoEFCC.<br><b>Partly Complied.</b>  | J-11011/398/2007-IAII(I) dated 04/08/2008 | -        | (i)     | PP has submitted the amendment request to GPCB for amendment in SO <sub>2</sub> & NO <sub>x</sub> standards in line with MoEF Notification dated 09 <sup>th</sup> May, 2016 and request matter is under consideration with GPCB.<br><b>Compliance Under Progress.</b>  |

| S No | Non-compliances details  | Observation of RO (abridged)  | Condition no.                             |          |         | Re-assessment by RO   |
|------|--|---|---|----------|---------|---|
|      |  |   | EC Date                                   | Specific | General |   |
| 7.   | The gaseous (SO <sub>2</sub> , NO <sub>x</sub> & CO) and particulate matter emission from various units shall conform to the standards prescribed by the GPCB. | SO <sub>2</sub> emissions from stack attached to Raw Mill are exceeding the stipulated norms given by GPCB, although the values are well below the standards stipulated by MoEFCC.<br><b>Partly Complied.</b> | J-11011/398/2007-IAII(I) dated 04/08/2008 | -        | (iii)   | PP has submitted the amendment request to GPCB for amendment in SO <sub>2</sub> & NO <sub>x</sub> standards in line with MoEF Notification dated 09 <sup>th</sup> May, 2016 and request matter is under consideration with GPCB.<br><b>Compliance Under Progress.</b> |
| 8.   | Rain Water Harvesting  | No roof top rainwater harvesting or rain water harvesting system to recharge groundwater is in place.<br><b>Partly Complied.</b>  | J-11011/398/2007-IAII(I) dated 04/08/2008 | -        | (vi)    | Roof Top Rain water harvesting is not feasible in their area. PP informed that they installed the roof rain water harvesting system at their shopping complex building with total water capacity of 1 Lac Ltr.<br><b>Complied</b>                                     |
| 9.   | Eco- development measures  | Details of compliance w.r.t. CSR/CER norms is yet to be furnished by the PP.<br><b>Partly Complied.</b>   | J-11011/398/2007-IAII(I) dated 04/08/2008 | -        | (ix)    | <b>Being Complied</b>   |
| 10.  | Environment Management Cell  | PP shall also strengthen the in-house monitoring.<br><b>Partly Complied.</b>  | J-11011/398/2007-IAII(I) dated 04/08/2008 | -        | (x)     | Unit has dedicated environment management cell with a full-fledged environmental laboratory to supervise and monitor the environment related aspects of the project.<br><b>Complied</b>   |
| 11.  | EMP Cost   | CAPEX details are yet to be furnished by the PP.<br><b>Partly Complied.</b>   | J-11011/398/2007-IAII(I) dated 04/08/2008 | -        | (xi)    | Unit has provided recurring expenditure Environmental Protection details  |

| S No | Non-compliances details   | Observation of RO (abridged)  | Condition no.                             |          |         | Re-assessment by RO   |
|------|---|---|---|----------|---------|---|
|      |   |   | EC Date                                   | Specific | General |   |
|      |   |   |   |          |         | for financial year 2018-19.<br><b>Being Complied</b>  |
| 12.  | Date of financial closures and final approval of the project by the concerned authorities and the date of commencing the land development work. | Documentary evidences related to needful intimations related to financial closure and other approvals were yet to be furnished to MOEFCC, RP Bhopal is yet to be furnished.<br><b>Not Complied.</b> | J-11011/398/2007-IAII(I) dated 04/08/2008 | -        | (xiii)  | <b>Not Complied.</b>  |
| 13.  | Copy of advertisement for earlier EC  | Documentary evidence related to needful intimation to MoEFCC, RO Bhopal is yet to be furnished.<br><b>Partly Complied.</b>  | J-11011/398/2007-IAII(I) dated 04/08/2008 | -        | (xiv)   | It is noted that M/s. Gujarat Anjan Cement Ltd vide letter dated 24.02.2009 has submitted the copy of EC advertisements published in Gujarati language and English in local newspaper on 26.10.2008. However, it is noted that the publication is not within seven days from the date of clearance letter.<br><b>Partly Complied.</b> |

b) CRZ clearance dated 11/01/2013

| S No | Non-compliances details  | Observation of RO (abridged)   | Condition no.  |          |         | Re-assessment by RO   |
|------|--|--|--|----------|---------|---|
|      |  |  | EC Date  | Specific | General |   |
| 1.   | De-chlorination shall be carried out before disposal of brine necessary. The details should be examined based on the CPCB/GPCB guidelines. | Sodium hypochlorite is mixed in lamella tank for disinfection of feed sea water. However, to neutralize the chlorine (present due to addition of Sodium Hypo | MoEF &CC. New Delhi vide letter No. 11-48/2012-IA.III dated 11/01/2013 | (v)      | -       | Free Residual chlorine monitoring for RO Reject Water is being done. Reports reveal that there is no presence of free residual chlorine in the reject water. The Test report for the month of |

| S No | Non-compliances details   | Observation of RO (abridged)  | Condition no.  |          |         | Re-assessment by RO   |
|------|---|---|--|----------|---------|---|
|      |   |   | EC Date  | Specific | General |   |
|      |   | chlorite) sodium meta bi-sulphite is added before passing the feed water to RO system. Also, Free Residual Chlorine is checked in RO feed water every 4 hours. However, monitoring of the RO reject water for Free residual chlorine to justify the non-requirement of de-chlorination is being done.<br><b>Partly Complied</b> |  |          |         | November and December 2020 has been submitted by PP.<br><b>Compliance In Progress.</b>  |
| 2.   | The project proponents 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 start of land development work. | No documentary evidence in compliance of the said condition was made available at the time of site visit.<br><b>Partly Complied</b>   | MoEF &CC. New Delhi vide letter No. 11-48/2012-IA.III dated 11/01/2013 | -        | (v)     | UTCL have taken over the project in year 2014. During handing over no record is given for the same. M/s. Jaypee may have submitted this during initial phase of plant commissioning. But no record is available for the same. M/s. Jaypee may have informed ministry in their half yearly reports.<br><b>Agree to comply with</b> |
| 3.   | The project proponent shall advertise in at least local newspapers widely   | Documentary evidences related to  | MoEF &CC. New Delhi vide   | -        | (x)     | UTCL have taken over the project in year  |

| S No | Non-compliances details   | Observation of RO (abridged)   | Condition no.  |          |         | Re-assessment by RO  |
|------|---|--|--|----------|---------|--|
|      |   |  | EC Date  | Specific | General |  |
|      | circulated in the region one of which shall be in the vernacular language informing that the project has been accorded CRZ clearance and copies of clearance letters are available with the Gujarat state pollution control board and may also be seen on the website of the Ministry of Environment and Forest at <a href="http://www.envfor.nic.in">http://www.envfor.nic.in</a> . The advertisement should be made within 10 days from the date of receipt of the clearance letter and a copy of the same should be forwarded to the regional office of this Ministry at Bhopal. | requisite advertisements made in local newspapers are shown at the time of site visit but the same were not enclosed in the revised compliance report. Needful intimations to MOEFCC, RO Bhopal shall also be furnished.<br><b>Partly Complied</b> | letter No. 11-48/2012-IA.III dated 11/01/2013                          |          |         | 2014. During handing over no record is given for the same. M/s. Jaypee may have submitted this during initial phase of plant commissioning. But no record is available for the same.<br><b>Partly Complied</b>   |
| 4.   | A copy of the clearance letter shall be sent by the proponent to concerned panchayat Zilla parisad /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 website of the company by the proponent.   | No documentary evidence in compliance of the said condition was made available at the time of site visit. Copy of the clearance letter was made available on company's website.<br><b>Partly Complied</b>  | MoEF &CC. New Delhi vide letter No. 11-48/2012-IA.III dated 11/01/2013 | -        | (xiii)  | UTCL have taken over the project in year-2014. During handing over no record is given for the same. M/s. Jaypee may have submitted this during initial phase of plant commissioning. But no record is available for the same. UTCL will submit a copy to panchayat Zilla parisad /Municipal corporation Urban Local Body and the Local NGO, within a month time. |

| S No | Non-compliances details | Observation of RO (abridged) | Condition no. |          |         | Re-assessment by RO    |
|------|-------------------------|------------------------------|---------------|----------|---------|------------------------|
|      |                         |                              | EC Date       | Specific | General |                        |
|      |                         |                              |               |          |         | Agreed To Comply With. |

48.3.19 Two closure notices were issued by GPCB to M/s. Ultratech Cement Limited (i) for discharge point of desalination plant rejects in the sea, which is not in conformity to the condition stated in the GPCB CC&A dated 11/02/2017 (ii) for environmental audit report on 11/09/2017. As on date, the closure notices have been revoked by GPCB.

48.3.20 M/s. Ultratech Cement Limited had originally submitted the application vide proposal number IA/GJ/IND/113014/2015 dated 02/08/2019. Proposal was considered by the EAC in its meeting held on 22-23<sup>rd</sup> August, 2019. Proposal was deferred for want of additional information.

48.3.21 M/s. Ultratech Cement Limited has made reply on 28/10/2021 against the ADS sought by EAC. Point wise reply of ADS is given as below:

| S No | ADS Point   | Reply   |
|------|---|---|
| 1.   | Certified Compliance Report of Existing EC and CRZ Clearance from Regional Office of MoEFCC shall be furnished. | <ul style="list-style-type: none"> <li>▪ Certified Compliance Report of Existing EC of Cement Plant &amp; Captive Power Plant has been obtained vide letter no. 5-194/2008/(ENV)/408 dated 07/07/2020 and Certified Compliance Report for CRZ Clearance has been obtained vide letter no. 6-4/2013/(ENV)/547, dated 10/08/2020 from Regional Office (WZ) of MoEFCC, Bhopal.</li> <li>▪ There are some partially compliance and one non - compliance observed in the Certified Compliance Report issued by Regional Officer, MoEFCC Bhopal.</li> <li>▪ Re-certification of the partially complied condition of Cement Plant &amp; Captive Power Plant has been received from MoEFCC Regional Office vide letter No. 5-194/2008 (Env)/405, dated 11/05/2021 and re-certification of the partially complied condition of CRZ Clearance has been issued vide letter No. 6-4/2013 (ENV)/079, dated 05/04/2021.</li> </ul> <p><i>Status of the certified compliance report has been updated at para no 48.3.18 above.</i></p> |
| 2.   | Petcoke is not permitted to be used as fuel in power plant.   | Petcoke is not being / will not be used as a fuel in the Captive Power Plant.   |
| 3.   | Plan for no ground water abstraction.   | Total fresh water requirement for the Existing plant is 3220 KLD and additional fresh water requirement for the expansion project will be 3120 KLD. Thus, the total fresh water   |

| S No | ADS Point  | Reply  |
|------|--|--|
|      |  | <p>requirement after expansion will be 6340 KLD; which is being / will be sourced from the Desalination Plant with the capacity of 6700 KLD; for which EC has already been obtained from MoEFCC, New Delhi.</p> <p>The feed water for desalination process will be taken from sea water. Hence, no ground water abstraction has been proposed for the proposed expansion project.</p>  |
| 4.   | CER to be revised for a period of three years.                   | <p>As per MoEFCC OM dated 30/09/2020 &amp; OM dated 20/10/2020; Socio-Economic Developmental activities has been formulated on the basis of the issues raised during Public Hearing &amp; will be implemented in a time bound manner with the start of the implementation of plant expansion. Company has allocated Rs. 2.47 Crores for Socio-economic development activities based on the Public Hearing issues / suggestions and needs of locals. The detailed socio-economic development plan along with budgetary allocation and implementation timelines is given at para no. 48.3.13 above.</p>  |
| 5.   | Proposal for safe disposal of rejects of the desalination plant. | <ul style="list-style-type: none"> <li>▪ The intake of sea water requires 18000 m<sup>3</sup>/day for the desalination plant and the sea water is being drawn from the Location 23<sup>o</sup>20.134' N &amp; 68<sup>o</sup>37.150 E and reject discharge will be 11,300 KLD against 6700 KLD treated sea water. The water intake is during high tide from the sea to the sump made on the shore. The influence of the intake on the local hydrodynamics is negligibly small.</li> <li>▪ Reject brine generated from Desalination Plant is being stored in a discharge tank (7115 KLD) and considering the location of the intake and the bathymetry of the creek, the reject water is being discharged at location 23<sup>o</sup>19'21.48"N, 68<sup>o</sup>36'07.00"E as suggested by National Institute of Oceanography in the sea through a dedicated pipeline. To prevent the cross-contamination with the intake which is about 1.0 km downstream from the intake, reject is being discharged during the tidal day in two parcels.</li> </ul> |
| 6.   | Action plan for improvement of greenbelt shall be furnished.     | <p>Erstwhile the total area acquired by Jaiprakash Associates Limited for setting up the cement plant was 699.85 ha. However, out of 699.85 ha,</p>  |

| S No | ADS Point   | Reply   |
|------|---|---|
|      |   | the total utilized are for cement plant & colony area is 320 ha including the area proposed for the expansion of cement plant and captive power plant. Rest of the area is open / abandoned area. PP ha submitted action plan for development of green belt development in 33% of the total 699.85 ha.  |
| 7.   | Feasibility of installing high pressure boiler for optimal energy recovery.                               | For feasibility of Expansion of Boiler, company is being/ will be used high pressure coal fired CFBC boiler with high temperature steam handling turbine for maximum efficiency. Company is / will get high efficiency, higher fuel flexibility, lower SO <sub>2</sub> , NO <sub>x</sub> and PM emissions, less LOI % in fly ash, minimum maintained flue gas exhaust temperature, etc. good feature. There is / will also be lower auxiliary power due to this boiler.   |
| 8.   | Rain water harvesting plan for more than 100% of the consumption and its monitoring and measurement plan. | <ul style="list-style-type: none"> <li>▪ The total water requirement of Integrated Cement Plant operations will be 6340 cum/day or 2092200 cum/annum as per 330 plant working days. The water is being and will be sourced from Desalination Plant. There is no dependency on ground water.</li> <li>▪ In addition to this, plant site is coming under Safe Zone as per CGWB categorization.</li> <li>▪ As per various recent guidelines of CGWA, recharge criteria are not applicable. Still the plant has initiated rainwater harvesting and artificial recharge measures from plant, colony and adjacent mines to augment ground water and replenish water level.</li> <li>▪ Rainwater harvesting practices through roof-top and surface run-off is proposed to be carried out and the available run-off from the same will be used for either groundwater recharge or for green belt or dust suppression etc.</li> <li>▪ Total Rainwater harvesting potential inside the Cement Plant and colony through ponds is 864900 cum/year. Total Rainwater harvesting potential inside the Colony through roof top is 23293.4 cum/year and total Rainwater harvesting potential within the Mines is 901942.50 cum/year. Thus, Net Rainwater Harvesting potential is 1790135.9 cum/year</li> </ul> |

| S No | ADS Point   | Reply  |
|------|---|--|
|      |   | or 5424.6 KLD; which is 86% of the total water utilized by the plant.  |
| 9.   | CRZ Clearance obtained for the desalination plant shall be furnished. | <ul style="list-style-type: none"> <li>▪ CRZ Clearance has already been obtained for the Desalination Plant from MoEFCC, New Delhi <i>vide</i> their letter no. 11-48/2012-IA-III dated 11/01/2013 in the name of M/s. Jaypee Gujarat Cement Plant which is transferred in the name of M/s. UltraTech Cement Limited (Unit: Sewagram Cement Works) <i>vide</i> letter no. 11-48/2012-IA-III (pt) dated 17<sup>th</sup> May, 2019.</li> </ul> |

48.3.22 During the meeting, project proponent submitted written submission on the following points:

- PP has submitted revised public hearing action plan with physical targets, revised public hearing action plan has been updated at para 48.3.13.
- As per the submitted by PP the latest revised organization structure, the Environment Managers in a unit is reports to the Unit Head.
- PP has submitted the study report of the study carried out for intake of seawater and discharge of Effluent from Desalination Plant by National Institute of Oceanography (NIO). Latest EC compliance report submitted by PP and same has been update at para no. 48.3.18 above.
- PP assured that the co-processing depending on the availability of the waste in the area. Also, ensure that PP will not co-process used oil in cement kiln, in this regard, we will ensure to strictly follow the CPCB Guidelines for co-processing in cement kilns.
- PP has submitted revised green belt plan, according to this PP will be developed green belt in 232 ha area (33% of the total project area of 699.85 ha) with the density of 2500 tree/ ha. Detail has been updated at para 48.3.15 above.

48.3.23 Based on the above, the proposal was considered in 48<sup>th</sup> meeting of Re-Constituted Expert Appraisal Committee (Industry-1) held on 11-12<sup>th</sup> November, 2021. The EAC observation and recommendation is given as below:

#### **Observations of the Committee**

48.3.24 The Committee noted the following:

- i. The Committee noted that the EIA/EMP report is in compliance of the ToR issued for the project, reflecting the present environmental concerns and the projected scenario for all the environmental components. The Committee has also found that the baseline data and incremental GLC due to the proposed project within NAAQ standards.
- ii. The EAC noted that project proponent shall take corrective action on the observed non-compliances reported by RO and comply with the same by 31/03/2022.
- iii. The EAC also deliberated on the certified compliance report of RO, action taken report of proponent, written submissions, public hearing issues as well as action plan to address the issues raised during public hearing and found it satisfactory.

### **Recommendations of the Committee**

48.3.25 In view of the foregoing and after detailed deliberations, the committee recommended the instant proposal for grant of Environment Clearance under the provisions of EIA Notification, 2006 subject to the stipulation of following specific conditions and general conditions as per the Ministry's Office Memorandum No. 22-34/2018-III dated 09/08/2018 based on project specific requirements:

#### **A. Specific conditions**

- i. The project proponent shall take corrective action on the non-compliances stated in the RO certified compliance report and comply with the same by 31/03/2022. Compliance status in this regard shall be submitted to the Ministry and Regional Office of the MoEF&CC.
- ii. 232 ha of land shall be developed into green belt with a tree density of 2500 trees per ha within a time frame of three years from date of grant of EC.
- iii. Particulate matter emissions from all the stacks shall be less than 30 mg/Nm<sup>3</sup>.
- iv. Petcoke dosing shall be controlled automatically to control SO<sub>2</sub> emission from chimney within the prescribed limits.
- v. Air cooled condensers shall be used in the captive power plant.
- vi. Dioxin and furans shall be monitored twice a year during co-processing of hazardous waste and report shall be submitted to the Regional Office of the MoEF&CC.
- vii. Rejects of desalination plant shall be discharged offshore as per recommendation of NIO and with prior approval of Gujarat Pollution Control Board.

#### **B. General conditions**

##### **I. Statutory compliance:**

- i. The Environment Clearance (EC) granted to the project/ activity is strictly under the provisions of the EIA Notification, 2006 and its amendments issued from time to time. It does not tantamount/ construe to approvals/ consent/ permissions etc., required to be obtained or standards/conditions to be followed under any other Acts/Rules/Subordinate legislations, etc., as may be applicable to the project.

##### **II. Air quality monitoring and preservation**

- i. The project proponent shall install 24x7 Continuous Emission Monitoring System (CEMS) at process stacks to monitor stack emission as well as 4 Nos. Continuous Ambient Air Quality Station (CAAQS) for monitoring AAQ parameters with respect to standards prescribed in Environment (Protection) Rules 1986 as amended from time to time. The CEMS and CAAQMS shall be connected to SPCB and CPCB online servers and calibrate these systems from time to time according to equipment supplier specification through labs recognized under Environment (Protection) Act, 1986 or NABL accredited laboratories.
- ii. The project proponent shall monitor fugitive emissions in the plant premises at least once in every quarter through labs recognized under Environment (Protection) Act, 1986.
- iii. The project proponent shall provide leakage detection and mechanized bag cleaning facilities for better maintenance of bags.

- iv. The project proponent shall ensure covered transportation and conveying of ore, coal and other raw material to prevent spillage and dust generation; Use closed bulkers for carrying fly ash;
- v. The project proponent shall provide wind shelter fence and chemical spraying on the raw material stock piles;
- vi. Ventilation system shall be designed for adequate air changes as per the prevailing norms for all tunnels, motor houses, and cement bagging plants.

### **III. Water quality monitoring and preservation**

- i. The project proponent shall install 24x7 continuous effluent monitoring system with respect to standards prescribed in Environment (Protection) Rules 1986 vide G.S.R. No. 612 (E) dated 25<sup>th</sup> August, 2014 (Cement) and subsequent amendment dated 9<sup>th</sup> May, 2016 (Cement) and 10<sup>th</sup> May, 2016 (in case of Co-processing Cement) as amended from time to time; S.O. 3305 (E) dated 7<sup>th</sup> December 2015 (Thermal Power Plants) as amended from time to time) and connected to SPCB and CPCB online servers and calibrate these system from time to time according to equipment supplier specification through labs recognized under Environment (Protection) Act, 1986 or NABL accredited laboratories.
- ii. The project proponent shall regularly monitor ground water quality at least twice a year (pre- and post-monsoon) at sufficient numbers of piezometers/sampling wells in the plant and adjacent areas through labs recognized under Environment (Protection) Act, 1986 and NABL accredited laboratories.
- iii. Sewage Treatment Plant shall be provided for treatment of domestic wastewater to meet the prescribed standards.
- iv. Garland drains and collection pits shall be provided for each stock pile to arrest the run-off in the event of heavy rains and to check the water pollution due to surface run off
- v. Water meters shall be provided at the inlet to all unit processes in the cement plant.
- vi. The project proponent shall make efforts to minimize water consumption in the cement plant complex by segregation of used water, practicing cascade use and by recycling treated water.

### **IV. Noise monitoring and prevention**

- i. Noise quality shall be monitored as per the prescribed Noise Pollution (Regulation and Control) Rules, 2000 and report in this regard shall be submitted to Regional Officer of the Ministry as a part of six-monthly compliance report.

### **V. Energy Conservation measures**

- i. Waste heat recovery system shall be provided for kiln and cooler.
- ii. The project proponent makes efforts to achieve power consumption less than 65 units/ton for Portland Pozzolona Cement (PPC) and 85 units/ton for Ordinary Portland Cement (OPC) production and thermal energy consumption of 670 Kcal/Kg of clinker.
- iii. Provide solar power generation on roof tops of buildings, for solar light system for all common areas, street lights, parking around project area and maintain the same regularly.
- iv. Provide the project proponent for LED lights in their offices and residential areas.

**VI. Waste management**

- i. Used refractories shall be recycled as far as possible.

**VII. Green Belt**

- i. The project proponent shall prepare GHG emissions inventory for the plant and shall submit the program for reduction of the same including carbon sequestration by trees in the plant premises.

**VIII. Public hearing and Human health issues**

- i. Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented.
- ii. The project proponent shall carry out heat stress analysis for the workmen who work in high temperature work zone and provide Personal Protection Equipment (PPE) as per the norms.
- iii. Occupational health surveillance of the workers shall be done on a regular basis and records maintained.

**IX. Environment Management**

- i. The project proponent shall comply with the provisions contained in this Ministry's OM vide F.No. 22-65/2017-IA.III dated 30/09/2020.
- ii. The company shall have a well laid down environmental policy duly approved by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental / forest / wildlife norms / conditions. The company shall have defined system of reporting infringements / deviation / violation of the environmental / forest / wildlife norms / conditions and / or shareholders / stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report.
- iii. A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly report to the head of the organization.

**X. Miscellaneous**

- i. The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.
- ii. The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.
- iii. The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.
- iv. The project proponent shall monitor the criteria pollutants level namely; PM10, SO<sub>2</sub>, NO<sub>x</sub> (ambient levels as well as stack emissions) or critical sectoral parameters,

- indicated for the projects and display the same at a convenient location for disclosure to the public and put on the website of the company.
- v. The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.
  - vi. The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.
  - vii. The project proponent 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, commencing the land development work and start of production operation by the project.
  - viii. The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.
  - ix. No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC).
  - x. Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.
  - xi. The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.
  - xii. The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.
  - xiii. The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.
  - xiv. Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

48.4 Proposed Integrated Cement Plant - Clinker (4.0 Million TPA), Cement {6.66 (2 x3.33) Million TPA}, CPP (2 x 25 MW), WHRS (38 MW), Synthetic Gypsum Plant (1560 TPD), DG Sets [2000 KVA {(1 x 1000 KVA), (1 x 500 KVA) & (2 x 250KVA)}], and Railway Siding by **M/s. Farhatabad Integrated Cement Project (A Unit of Shree Cement Ltd.)** located at Villages Tilgul & Kirangi, **Taluka & District Kalaburagi, Karnataka.** [Online Proposal No. IA/KA/IND/228504/2021; File No.: IA-J-11011/355/2021-IA-II(IND-I)] – **Prescribing of Terms of Reference –regarding.**

48.4.1 M/s. Farhatabad Integrated Cement Project (A Unit of Shree Cement Ltd.) has made an online application vide proposal no. IA/KA/IND/228504/2021 dated 26/10/2021 along with the application in prescribed format (Form-I), copy of pre-feasibility report and proposed ToR for undertaking detailed EIA study as per the EIA Notification, 2006 for the project mentioned above. The proposed project activity is listed at Schedule No. 3 '(b)' Cement plants and 1 (d) Thermal Power Plants under Category "A" of the schedule of the EIA Notification, 2006 and appraised at Central level.

**Details submitted by Project proponent**

48.4.2 The project of M/s. Farhatabad Integrated Cement Project (A Unit of Shree Cement Ltd.) is located at Villages Tilgul & Kirangi, Taluka & District Kalaburagi, Karnataka is for Proposed Integrated Cement Plant - Clinker (4.0 Million TPA), Cement {6.66 (2 x3.33) Million TPA}, CPP (2x25 MW), WHRS (38 MW), Synthetic Gypsum Plant (1560 TPD), DG Sets [2000 KVA {(1 x 1000 KVA), (1 x 500 KVA) & (2 x 250 KVA)}], and Railway Siding.

48.4.3 Environmental site settings:

| S No | Particulars  | Details   | Remarks   |
|------|--|---|---|
| i.   | Total land   | Total Project area is 97.52 ha (240.975 acres). The entire project area is a Private agricultural land.                                 | Land Use - Present land use of the proposed project site is agriculture land which will be used for industrial purpose after its conversion into Industrial land use. |
| ii.  | Existence of habitation & involvement of R&R, if any.  | No habitation exist within the project site and R&R is not applicable.  | --  |
| iii. | Latitude and Longitude of the project site   | Latitude - 17°9'22.12"N to 17°9'53.68"N<br>Longitude - 76°49'11.45"E to 76°50'10.11"E   | --  |
| iv.  | Elevation of the project site  | 406 to 422 m AMSL   | --  |
| v.   | Involvement of Forest land if any.   | No Forest land is involved in the project area  |   |
| vi.  | Water body exists within the project site as well as study area  | <b>Project site:</b> Nil<br><b>Study Area:</b><br>Bhima River: 4.75 km / WSW<br>Dargah Nalla: 6.0 km/ SSW<br>Nandan Nalla: 9.5 km/ East | --  |
| vii. | Existence of ESZ/ ESA/ National Park / Wildlife sanctuary / Biosphere reserve / Tiger reserve / Elephant reserve etc. if any within the study area | Nil.  | --  |

48.4.4 The unit configuration and capacity of proposed project is given as below:

| S No | Particular | Unit | Proposed Capacity |
|------|------------|------|-------------------|
| 1    | Clinker    | MTPA | 4.0               |

| S No | Particular             | Unit | Proposed Capacity             |
|------|------------------------|------|-------------------------------|
| 2    | Cement                 | MTPA | 6.66 (2x3.33)                 |
| 3    | CPP                    | MW   | 2x25                          |
| 4    | WHRS                   | MW   | 38                            |
| 5    | Synthetic Gypsum Plant | TPD  | 1560                          |
| 6    | DG sets                | kVA  | 2000 (1x1000 + 1x500 + 2x250) |

48.4.5 The details of the raw material requirement for the proposed project along with its source and mode of transportation is given as below:

**Raw Material for Clinker and Cement**

| S No | Raw Material                                     | Basis                         | Quantity (MTPA) | Source   | Mode of transportation                        |
|------|--|-------------------------------|-----------------|--|---|
| 1    | Limestone  | 1.4 T/ T of Clinker           | 5.60            | Proposed Farhatabad Captive Limestone mines  | Adjacent to the plant, through conveyor belts |
| 2    | Indian & imported Coal and Petcoke as feed stock | 0.16 T Coal/ T of Clinker     | 0.64 Coal       | Indigenous Coal: Singareni Coal Deposit (SCCL) & nearby sources<br>Imported Coal: USA, South Africa, Australia and Indonesia   | Rail and Road                                 |
|      |  | (0.10T Petcoke/ T of Clinker) | 0.4 Pet Coke    | Petcoke Local petroleum refinery Jamnagar, Reliance & Essar/ USA / Saudi Arabia / Turkey / Canada etc.                         | Rail and Road                                 |
| 3    | Iron Ore   | 0.015 T/ T of Clinker         | 0.06            | Bellary, Kamatgi, Bagalkot and other nearby sources  | Rail and Road                                 |
| 4    | Bauxite  | 0.044 T/ T of Clinker         | 0.176           | Belgaum, Kolhapur, Goa and Nearby sources  | Rail and Road                                 |
| 5    | Gypsum (Mineral, Synthetic, Chemical & Imported) | 0.07 T / T of Cement          | 0.56            | Proposed in-house Sy. Gypsum Plant, RCF, Mumbai or Nagaur (Rajasthan), Salem & Coimbatore, Tamil Nadu and other nearby sources | Rail and Road                                 |
| 6    | Fly ash  | 0.35 T/T of Cement            | 2.8             | CPP, Raichur Thermal Power Station and other nearby sources  | Road  |
| 7    | Slag   | 0.55 T/T of Cement            | 4.4             | Jindal Steel, Bellary  | Rail and Road                                 |

**Raw Material for Synthetic Gypsum**

| S No | Raw Material                       | Requirement 1560 TPD |     | Source                                |
|------|------------------------------------|----------------------|-----|---------------------------------------|
|      |                                    | %                    | TPD |                                       |
| 1    | Limestone                          | 62.0                 | 968 | Captive Limestone mine                |
| 2    | H <sub>2</sub> SO <sub>4</sub> 98% | 42.0                 | 655 | Local Market                          |
| 3    | Water                              | 35.0                 | 546 | Ground Water, Bhima River & RO reject |

**Fuel and Raw Material for CPP**

| S No | Name of Feed stock | Quantity (MTPA) | Source                                     | Calorific value | % Ash | % Sulphur | Distance & Mode of transportation             |
|------|--------------------|-----------------|--|-----------------|-------|-----------|---|
| 1    | 100% Indian Coal   | 0.27            | Singareni Coal Deposit & nearby sources    | 3700            | 35    | 0.4       | Road & Rail                                   |
| 2    | 100% Imported Coal | 0.25            | USA, South Africa, Australia and Indonesia | 6735            | 3.3   | 0.4       | Road & Rail                                   |
| 3    | Limestone          | 0.07            | Captive Lime stone mine                    | --              | --    | --        | Adjacent to the plant, through conveyor belts |

48.4.6 The water requirement for the project is estimated as 1750 KLD, which will be obtained from Ground Water, Bhima River and Mine pit water. The permission for drawl of groundwater will be obtained for the proposed Integrated Cement Plant.

48.4.7 The power requirement for the project is estimated as 74.8 MW, which will be obtained from the Proposed Captive Power Plant, WHRS and State Grid Power Supply and D.G. sets 2000 KVA (1 x 1000 KVA, 1 x 500 KVA & 2 x 250 KVA) (for back up during Grid power failure).

48.4.8 The capital cost of the project is Rs. 2988.22 Crores and the capital cost for environmental protection measures is proposed as Rs 76.66 Crores. The employment generation from the proposed project is 800 Persons (300 Permanent & 500 Contractual).

48.4.9 Proposed Terms of Reference (**Baseline Data collection period- Winter Season (Dec., 2020 to Feb., 2021)**):

| Attributes     | Parameters            | Sampling        |           | Remarks |
|----------------|-----------------------|-----------------|-----------|---------|
|                |                       | No. of Stations | Frequency |         |
| A. Air         |                       |                 |           |         |
| a. Meteorology | Temperature, Relative | 01              | Hourly    | -       |

| Attributes  | Parameters  | Sampling                                |                                     | Remarks |
|---|---|---|-------------------------------------|---------|
|   |   | No. of Stations                         | Frequency                           |         |
|   | Humidity, Wind Speed, Wind Direction, Rainfall  | (Project site)                          |                                     |         |
| b. Air  | PM <sub>10</sub> , PM <sub>2.5</sub> , SO <sub>2</sub> , NO <sub>2</sub> , CO and PAHs  | 11                                      | Twice a week (24 Hourly)            | -       |
| B. Noise  | Equivalent noise levels in Leq in dB (A)  | 11                                      | Once in a season (Day & Night time) | -       |
| <b>C. Water</b>   |   |   |                                     |         |
| a. Surface water/<br>b. Ground water quality parameters | Parameters as per IS 10500 - 2012   | Surface Water – 03<br>Ground water - 08 | Once in a season                    | -       |
| <b>D. Land</b>  |   |   |                                     |         |
| a. Soil Quality   | Parameters As per IS 2720/USDA  | 08                                      | Once in a season                    | -       |
| b. Land Use   | Agriculture, Habitation, Industry, Stony waste/ Quarries, Forest area, Plantation/<br>Vegetation, Open scrub, Water bodies etc. | 10 km radius Study Area                 | Once in a Study period Season       | -       |
| <b>E. Biological</b>                                    |   |   |                                     |         |
| a. Aquatic  | Flora and fauna   | Study area                              | Once in a season                    | -       |
| b. Terrestrial  |   |   |                                     |         |
| F. Socio-economic parameters                            | Economic Demography   | Study area                              | Once in a season                    | -       |

- 48.4.10 It has been reported by PP that, there is no violation under EIA Notification, 2006/court case/show cause/direction related to the project under consideration.
- 48.4.11 Name of the EIA consultant: J.M. EnviroNet Pvt. Ltd [S. No.44, List of ACOs with their Certificate no. NABET/EIA/2023/RA 0186, valid up to 07/03/2023; Rev. 15, October 11, 2021].
- 48.4.12 The proposal was considered in 48<sup>th</sup> Reconstituted Expert Appraisal Committee (Industry-1) held on 11-12<sup>th</sup> November, 2021. The observations and recommendations of the committee are given as below:

### **Observations of the Committee**

- 48.4.13 The EAC noted the following:
- i. Instant proposal is for undertaking EIA study for setting up of Integrated Cement Plant at Tilgul & Kirangi Village, Taluka & District Kalaburagi, Karnataka.
  - ii. PP has proposed for synthetic gypsum plant with capacity of 1560 TPD with integrated cement plant.
  - iii. The project was proposed in the 97.52 ha area.
  - iv. Water for industrial purpose will be met from Bhima River and tune of 80 KLD water for domestic water will be sourced from ground water abstraction.
  - v. Tilgul village is 600 m away from plant boundary in NW direction.

### **Recommendations of the Committee**

- 48.4.14 After deliberations, the Committee recommended the project proposal for prescribing following specific ToRs for undertaking detailed EIA and EMP study in addition to the generic ToR enclosed at Annexure-1 read with additional ToRs at Annexure-2:
- i. A road is passing through the project site. Action plan for diversion of the said road shall be incorporated in EIA EMP report.
  - ii. Captive limestone mine is adjacent to the cement plant, for which cumulative impact assessment shall be carried and incorporated in the EIA/ EMP report.
  - iii. Action plan for green belt development covering 33% of the project area all along the periphery of the project site with a density of 2500 trees per hectare shall be submitted. This shall include 20-meter-wide green belt development within the project area towards Tilgul village.
  - iv. Action plan for co-processing of hazardous waste in the kiln shall be submitted.
  - v. Action plan to limit the dust emission from all the stacks below 30 mg/Nm<sup>3</sup> shall be furnished.
  - vi. Action plan for fugitive emission control in the plant premises shall be provided.
  - vii. Action plan for treatment of waste water generated from scrubber in synthetic gypsum unit shall be submitted.

48.5 Greenfield project for installation of Iron ore Beneficiation Plant –1.5 MTPA throughput (1.16 MTPA High Grade Ore), Iron ore Pelletization Plant – 1.2 MTPA and Producer Gas Plant – 27,000 Nm<sup>3</sup>/hr by **M/s. KAI International Private Limited** located at Village Kapanda, Tehsil Lahunipara, **District - Sundergarh, Odisha** [Online Proposal No. IA/OR/IND/235042/2021; File No.: IA-J-11011/59/2021-IAII(I)] – **Prescribing of Terms of Reference – regarding.**

48.5.1 M/s. KAI International Private Limited has made an application online vide proposal no. IA/OR/IND/235042/2021 dated 21/10/2021 along with the application in prescribed format (Form I), copy of Pre-feasibility report and proposed ToRs for undertaking detailed EIA study as per the EIA Notification, 2006 for the project mentioned above. The proposed project activity is listed at S.No.2(b) Mineral Beneficiation & 3(a) Metallurgical industries (ferrous & non-ferrous) under Category “A” of the schedule of the EIA Notification, 2006 and appraised at central level.

### **Details submitted by Project proponent**

48.5.2 The project of M/s KAI International Private Limited located in Kapanda Village, Lahunipara Tehsil, Sundergarh District, Odisha State is for setting up for Greenfield project for installation of Iron ore Beneficiation Plant –1.5 MTPA throughput (1.16 MTPA High

Grade Ore), Iron ore Pelletization Plant – 1.2 MTPA and Producer Gas Plant – 27,000 Nm<sup>3</sup>/hr.

48.5.3 Environmental site settings:

| SNo  | Particulars  | Details   | Remarks               |
|------|--|---|-----------------------|
| i.   | Total land   | Total Land: 19.3 ha. (47.74 Acres)  | Land use: Industrial. |
| ii.  | Existence of habitation & involvement of R&R, if any.  | R&R – Not Applicable. No habitants or houses within the identified project area.  |                       |
| iii. | Latitude and Longitude of the project site   | <b>Latitude:</b><br>21°53' 11.30"N to 21°53'29.01"N<br><b>Longitude:</b><br>84°52'15.80"E to 84°52'35.23"E  |                       |
| iv.  | Elevation of the projectsite   | 193 to 252 m AMSL   |                       |
| v.   | Involvement of Forest land if any.   | <b>Forest Land:</b> No forest Land Involved.  |                       |
| vi.  | Waterbody exists within the project site as well as the study area   | <b>Project site:</b> Nil<br><b>Study area:</b><br>Brahmani River (1.65 km, West)<br>Amrurhi Nala (3.1 km, NNE)<br>Katangamunda Nala (3.4km NW)<br>Rukura River (4.35 km S)  |                       |
| vii. | Existence of ESZ/ ESA/ national park/ wildlife sanctuary/ biosphere reserve/ tiger reserve/elephant reserve etc. if any within the study Area. | <b>Protected Forest:</b><br>Samaradari Juniani PF (E) 0.41 km<br><b>Reserve Forest:</b><br>Kukia RF (NW) 0.15 km<br>Dhenkiam RF (W) 2.6 km<br>Nalghati Rajabasa RF (SW) 3.3 km<br>Dhenkiam Block RF (NW) 3.74 km<br>Bhagoth RF (SSW) 6.68 km<br>Dhanaghar Extension RF (NNE) 6.9 km<br>Gurundia RF (SW) 7.92 km<br>No National Parks, Wildlife Sanctuaries, Biosphere Reserves within 10 Km radius of the proposed site |                       |

48.5.4 The unit configuration and capacity of proposed project is given as below:

| S No | Plant Facilities       | Configuration              | Production Capacity (TPA)                               |
|------|------------------------|----------------------------|---|
| 1    | Iron ore Beneficiation | (1x1.5 MTPA) throughput    | 15,00,000 TPA throughput (11,60,000 TPA high grade ore) |
| 2    | Pellet                 | (2x0.6 MTPA)               | 12,00,000 TPA   |
| 3    | Producer Gas Plant     | 6x4500 Nm <sup>3</sup> /hr | 27,000 Nm <sup>3</sup> /hr                              |

48.5.5 The details of the raw material requirement for the proposed project along with its source and mode of transportation is given as below:

| S No | Raw Material Required           | Quantity in Tons per Annum | Source                        | Distance from site (Kms) | Mode of Transportation                              |
|------|---------------------------------|----------------------------|-------------------------------|--------------------------|---|
| 1    | Iron Ore Fines                  | 15,00,000                  | Barbil, Koida mine, Joda mine | 55 km, 12 km, 58 km      | Road/ Rail (Railway Siding: Chandiposh 15.8 km NNW) |
| 2    | Process return fines & ESP Dust | 45,927                     | In- house Generation          | 0.1 km                   | Pneumatically                                       |
| 3    | High grade Iron ore Fines       | 1,40,000                   | Domestic Market               | 58 km                    | Road  |
| 4    | Coal                            | 95,513                     | Mahanadi Coal field           | 106 km                   | Rail/ Road  |
| 5    | Bentonite                       | 13,063                     | Rourkela                      | 41 km                    | Road  |
| 6    | Lime Stone                      | 13,063                     | Khatkurbahal limestone mine   | 64 km                    | Rail/ Road  |
| 7    | Coke                            | 3,575                      | Rourkela                      | 41 km                    | Road  |
| 8    | LDO                             | 2,400                      | Domestic Market               | 40 km                    | Road  |

48.5.6 The water requirement for the project is estimated as 665KLD (make-up). The source of water will be Brahmani river (permission for the same will be obtained). The pickup point is estimated to be approximately 1.65 km aerial distance from the plant boundary. The length of the water pipeline will be approximately 4 km.

48.5.7 The power requirement for the project is estimated as 12 MW which will be sourced from the nearest grid at Purunapani substation which is 3.70 km distance in ESE direction.

48.5.8 The capital cost of the project is Rs.341.72 Crores, and the capital cost for Environmental protection measures is proposed as Rs.18.72 Crores (Capital), Rs 123.86 Lakhs/yr (Recurring cost). The employment generation from the proposed project will be around 500, including direct (280) and indirect (220) employment.

48.5.9 Proposed Terms of Reference (**Baseline data collection period: October 2021 to December, 2021**):

| Environmental Aspect       | Frequency/ Parameters / Locations   |
|----------------------------|---|
| <b>Micro Meteorology</b>   | <b>Frequency:</b> Continuous recording of hourly micro-meteorological parameters for 3 months<br><b>Parameters:</b> Temperature, Relative Humidity, Rainfall, Wind speed, Wind direction, Cloud cover,<br><b>Location:</b> At/Near Project Site |
| <b>Ambient Air Quality</b> | <b>Frequency:</b> Twice a week on 24 hrs basis for 12 weeks<br><b>Parameters:</b> PM <sub>10</sub> , PM <sub>2.5</sub> , SO <sub>2</sub> , NO <sub>x</sub> , CO, NH <sub>3</sub> , O <sub>3</sub> , BaP& Fe                                     |

| <b>Environmental Aspect</b>  | <b>Frequency/ Parameters / Locations</b>   |
|------------------------------|--|
|                              | <b>Locations:</b> 8 locations within the study area covering core zone, upwind directions, downwind directions, crosswind directions and nearby habitations based on the predominant windrose as presented above.  |
| <b>Ambient Noise Levels</b>  | <b>Frequency:</b> Continuous monitoring for 24 hours (Day & Night) at each location, once in a month for 3 months<br><b>Parameters:</b> Leq Day Time, Leq Night Time<br><b>Locations:</b> 8 locations within the study area covering core zone, various land uses and nearby habitations.  |
| <b>Surface Water Quality</b> | <b>Frequency:</b> Once during the study period (Three Month)<br><b>Parameters:</b> Colour, pH, Dissolved Oxygen (min), Conductivity, Total Hardness, Turbidity, Chlorine (Cl <sup>-</sup> ), Total Dissolved Solids, Oil & Grease (max), BOD (3) days at 27°C (max), Chemical Oxygen Demand (COD), Arsenic (As), Lead (Pb), Cadmium (Cd) (max), Hexa Chromium as Cr <sup>+6</sup> , Copper (Cu) (max), Zinc (Zn) (max), Selenium (Se) (max), Cyanide (CN) (max), Fluoride (F), Sulphates (SO <sub>4</sub> <sup>-</sup> ), Calcium (Ca), Magnesium (Mg), Manganese (Mn), Boron (B), Mercury (Hg), Phenolic Compounds as C <sub>6</sub> H <sub>5</sub> OH (max), Iron (Fe) (max), Nitrate (NO <sub>3</sub> ), Anionic Detergents (max), Total Coliform.<br><b>Locations:</b> 11 locations within the study area covering major surface water bodies. |
| <b>Ground Water Quality</b>  | <b>Frequency:</b> Once during the study period (Three Month)<br><b>Parameters:</b> Color, Odour, Taste, Turbidity, pH, Total Hardness (as CaCO <sub>3</sub> ), Iron (Fe), Chloride (Cl <sup>-</sup> ), Residual Free Chlorine, Total Dissolved Solids as TDS, Calcium (Ca), Magnesium (Mg), Copper (Cu), Manganese (Mn), Sulphate (SO <sub>4</sub> <sup>-</sup> ), Nitrate (NO <sub>3</sub> ), Fluoride (F), Phenolic Compounds as C <sub>6</sub> H <sub>5</sub> OH, Mercury (Hg), Cadmium (Cd), Selenium (Se), Arsenic (As), Cyanide (CN), Lead (Pb), Zinc (Zn), Total Chromium as Cr, Mineral Oil, Alkalinity, Aluminium (Al), Boron (B), Total Coliform as TC, Amonia Total, Barium (Ba), Molybdenum (Mo), Nickel (Ni), PAH & Pesticide.<br><b>Locations:</b> 8 locations within the study area.  |
| <b>Soil Quality</b>          | <b>Frequency:</b> Once during the study period (Three Month)<br><b>Parameters:</b> Conductivity, Water Holding Capacity, Infiltration Rate, pH, Texture, Sand, Silt, Clay, Bulk Density, Exchangeable Calcium, Exchangeable Sodium, Exchangeable Magnesium, Available Potassium, Available Phosphorus, Available Nitrogen, Organic Matter, Organic Carbon, Water Soluble Chloride, Water Soluble Sulphate, Sodium Absorption Residue, Aluminium, Iron, Manganese, Boron, Zinc, Chromium, Hexavalent Chromium, Nickel, Copper, Cadmium, Iron, Silica, Lead, Available Phosphorus.<br><b>Locations:</b> 6 locations within the study area covering different land uses such as agriculture land, park, waste land, etc.  |

| Environmental Aspect              | Frequency/ Parameters / Locations  |
|-----------------------------------|--|
| <b>Hydrogeology</b>               | <b>Frequency:</b> During Winter & post-monsoon season<br><b>Parameters:</b> Drainage pattern, Ground water table depth, ground water quality, ground water yield, etc.<br><b>Locations:</b> villages within 10 km radius study area  |
| <b>Land use land cover</b>        | Satellite imagery-based land use study and preparation of land use land cover maps based on latest LULC classifications & Ground truthing.<br><b>Parameters:</b> Agricultural area, Water bodies, Industrial land, Barren land, Built-up land, Forest area.                            |
| <b>Ecology &amp; Biodiversity</b> | <b>Frequency:</b> Primary survey during study period. Secondary data collection from Forest department<br><b>Parameters:</b> Terrestrial Flora & Fauna, Aquatic flora & fauna, Forests, etc.<br><b>Location:</b> 10 km radius study area   |
| <b>Socio-economy</b>              | <b>Frequency:</b> Primary survey during study period. Secondary data collection from Govt. offices, Village Panchayats, Census of India records<br><b>Parameters:</b> Demographic pattern, economic pattern, social amenities availability<br><b>Location:</b> 10 km radius study area |

48.5.10 It has been reported by PP that, there is no violation under EIA Notification, 2006/court case/show cause/direction related to the project under consideration.

48.5.11 Name of the EIA consultant: M/s. Visiontek Consultant Service Private Limited [S. No.98, List of ACOs with their Certificate no. NABET/EIA/2023/RA 0209, valid up to 16/12/2023, Rev. 15, October 11, 2021].

48.5.12 During the meeting, project proponent submitted written submission on the following points

- PP submitted the revised plant layout including 20 m. wide greenbelt along the periphery and shifted the plant facilities to avoid cutting of trees at plant site. After revise the layout plan, the plantation area reduced from 8.7 ha to 6.27 ha and construction area is increased from 10.60 ha to 13.03 ha from the total project area of 19.3 ha.
- PP submitted the action plan for tailing management from beneficiation plant and as per the action plan Tailing Generation per Annum is 3,40,000 TPA with storage of 60 days. The considering the density as 2.60 T/m<sup>3</sup> of iron ore tailing volume will be 23,776 m<sup>3</sup> and height is considered 2 m. thus, the total area for tailing pond will be 1.2 Ha.

**Observations of the Committee**

48.5.13 The EAC noted the following:

- i. Instant proposal is for setting up for Greenfield project for installation of Iron ore Beneficiation Plant –1.5 MTPA throughput (1.16 MTPA High Grade Ore), Iron ore

Pelletization Plant – 1.2 MTPA and Producer Gas Plant – 27,000 Nm<sup>3</sup>/hr at Kapanda Village, Lahunipara Tehsil, Sundergarh District, Odisha.

- ii. Total project area is 19.3 ha out of which 6.27 ha area is occupied with dense trees and remaining 13.03 ha is proposed for installing the plant facilities.
- iii. Out of 3972 trees present at project site 1500 trees will be felled down and 260 no of trees will be transplanted. The requisite permission to fell down 1500 trees has been obtained by the proponent from DFO.

#### **Recommendations of the Committee**

48.5.14 After deliberations, the Committee recommended the project proposal for prescribing following specific ToRs for undertaking detailed EIA and EMP study in addition to the generic ToR enclosed at Annexure-1 read with additional ToRs at Annexure-2:

- i. 665 KLD water shall be drawn from Brahmani river. No ground water abstraction is permitted.
- ii. Total 3972 trees are present at project site out of which the PP has received permission from local Forest authorities for felling of 1500 trees. Further, 260 trees are proposed to be transplanted. Compensatory plantation for the felled down trees shall be raised as per the State Govt norms and detail shall be furnished in the EIA report.
- iii. Conservation plan duly approved by the State Forest department for the protection of Forest patches situated adjacent to the project site shall be submitted.
- iv. Action plan to limit the dust emission from all the stacks below 30 mg/Nm<sup>3</sup> shall be furnished.
  - v. Action plan for fugitive emission control in the plant premises shall be provided.
  - vi. Action plan for green belt development covering 33% of the project area all along the periphery of the project site with a density of 2500 trees per hectare shall be submitted.
  - vii. Action plan for 100 % solid waste utilization shall be submitted.
  - viii. Action plan for rain water harvesting shall be submitted.
  - ix. Action plan for the stock piles with impervious floor, provision of garland drains and catch pits to trap run off material shall be submitted.
  - x. Action plan for treatment, storage and utilization of tailings shall be submitted.

48.6 Installation of New Line -II (Clinker 3.3 MTPA, Cement -2.0 MTPA and WHRB-15.5 MW) at existing cement plant site, taking total capacity to 4.09 MTPA Clinker, 2.99 MTPA Cement with 20.17 MW Waste Heat Recovery Power Plant by **M/s. Star Cement Limited** located at Village Lumshnong, Tehsil Khliehriat, **District East Jaintia Hills, Meghalaya.** [Online Proposal No. IA/ML/IND/235801/2021; File No.:IA-J-11011/277/2021-IA-II(I)] – **Prescribing of Terms of Reference – regarding**

48.6.1 M/s. Star Cement Limited has made an application online vide proposal no. IA/ML/IND235801/2021 dated 26.10.2021 along with the application in prescribed format (Form-I), copy of pre-feasibility report and proposed ToRs for undertaking detailed EIA study as per the EIA Notification, 2006 for the project mentioned above. The proposed project activity is listed at S. No. 3(b) under Category “A” of the schedule of the EIA Notification, 2006 and attracts general condition due to Narpuh Wildlife Sanctuary (ESZ boundary at 2.52 km from project location), and was appraised at Central Level.

**Details submitted by Project proponent**

48.6.2 The project of M/s Star Cement Limited located in Lumshnong Village, Khliehriat Tehsil, East Jaintia Hills District, Meghalaya State is an expansion project for setting up of a new Line- II for production of Clinker 3.3 MTPA, Cement -2.0 MTPA and WHRB-15.5 MW at existing cement plant site of Star Cement Limited, taking total capacity to 4.09 MTPA Clinker, 2.99 MTPA Cement with 20.17 MW Waste Heat Recovery Power Plant.

48.6.3 Environmental site settings:

| SNo  | Particulars  | Details   | Remarks   |
|------|--|---|---|
| i.   | Total land   | 94.96 ha [Private land]   | The land use of additional land will be changed from scrubland to built up land. The land use of existing land has already changed. |
| ii.  | Existence of habitation & involvement of R&R, if any.  | Nil. R& R is not applicable   |   |
| iii. | Latitude and Longitude of the project site   | Latitude: 25°10'13.53"N to 25°10'31.76"N<br>Longitude: 92°23'7.78"E to 92°23'12.14"E  |   |
| iv.  | Elevation of the project site  | Maximum: 528 m ASL<br>Minimum: 381 m ASL  |   |
| v.   | Involvement of Forest land if any.   | No forest land is involved  |   |
| vi.  | Water body exists within the project site as well as study area  | <b>Project site:</b> Nil<br><b>Study area</b><br>Umtyrngai Nallah (Ephemeral)- Adjacent to the plant<br>UmLunar River: 3.28 km<br>Lubha River: 4.09 km<br>Seshympa River: 5.48 km | The elevation of the Umlunar river is 70 m AMSL. However, the minimum elevation of the proposed cement plant is 381 m AMSL.         |
| vii. | Existence of ESZ/ ESA/ national park/ wildlife sanctuary/ biosphere reserve/ tiger reserve/ elephant reserve etc. if any within the study area | <b>Study area</b><br>ESZ boundary of Narpuh Wildlife Sanctuary - 2.52 km<br>Narpuh Wildlife Sanctuary 3.79 km   |   |

48.6.4 The existing project was accorded environmental clearance vide letter. no. F.No. J-11011/225/2016-IA II (I) dated 23/02/2017. Consent to Operate for the existing unit was

accorded by Meghalaya State pollution Control Board vide letter. no. MPCB/CON-900(Pt-IV)/2020-2021/76. The validity of CTO is up to 31/03/2022.

48.6.5 Implementation status of the existing EC dated 23/02/2017

| S No | Facilities | Units | As per EC dated 23/02/2017 | Implementation Status as on | Production as per CTO |
|------|------------|-------|----------------------------|-----------------------------|-----------------------|
| 1    | Clinker    | MTPA  | 0.792                      | operational                 | 0.792                 |
| 2    | Cement     | MTPA  | 0.990                      | operational                 | 0.990                 |

48.6.6 The unit configuration and capacity of existing and proposed project is given as below:

| S No | Name             | Existing Units                       |                             | Proposed Units                                    |                 | Total (Existing + Proposed)                         |                 |
|------|------------------|--------------------------------------|-----------------------------|---|-----------------|---|-----------------|
|      |                  | Configuration                        | Production MTPA             | Configuration                                     | Production MTPA | Configuration                                       | Production MTPA |
| 1    | Clinker          | Raw Mill-160 TPH (Ball Mill)         | 0.79                        | Raw Mill (VRM)-725 TPH                            | 3.3             | Raw Mill (Ball mill) & Raw Mill (VRM)-885 TPH       | 4.09            |
| 2    | Cement           | Cement Mill-150 TPH (Ball mill)      | 0.99                        | Cement Mill (VRM)-285 TPH                         | 2               | Cement Mill (Ball mill) & Cement Mill (VRM)-435 TPH | 2.99            |
| 3    | WHR Power Boiler | Turbine Inlet 22.5 TPH HP Steam only | 4.67 MW (yet to be operate) | Turbine Inlet 68.4 TPH HP Steam 18.2 TPH LP Steam | 15.5 MW         | Turbine Inlet 90.9 TPH HP Steam 18.2 TPH LP steam   | 20.17 MW        |

**Note:** power generation of 4.67 MW by WHRB has been installed but not operated till date.

48.6.7 The details of the raw material requirement for the proposed project along with its source and mode of transportation is given as below:

| S No | Raw Material                         | Quantity required per annum |           |       | Source   | Distance from site (kms)              | Mode of transportation |
|------|--------------------------------------|-----------------------------|-----------|-------|--|---------------------------------------|------------------------|
|      |                                      | Existing                    | Expansion | Total |  |                                       |                        |
| 1.   | Limestone                            | 0.982                       | 4.260     | 5.242 | Own mines  | 1.5 km<br>Belt Conveyor/ 2 km by road | Belt Conveyor/<br>Road |
| 2.   | Shale                                | 0.15                        | 0.750     | 0.900 | Own mines  | 3 - 7.0 km                            | Road                   |
| 3.   | Mill Scale/<br>Iron Ore/<br>Laterite | 0.0079                      | 0.050     | 0.058 | Guwahati   | 230 km                                | Road                   |
| 4.   | Coal/<br>Petcoke<br>(Fuel)           | 0.1330                      | 0.400     | 0.533 | Mine located at Wapung/Margherita/Ranigunj/<br>Imported coal<br>Imported/Indian Refinery | 26 km<br><br>615 km<br>1151 km        | Rail/Road              |
| 5.   | Gypsum                               | 0.017                       | 0.040     | 0.057 | Mineral Gypsum from Bhutan<br>Chemical gypsum from plants such as Paradeep Phosphates    | 300 km/<br>1600 km                    | Road                   |
| 6.   | Fly Ash                              | 0.178                       | 0.612     | 0.788 | Pneumatic conveying in existing & Subsidiary power plant adjoining the plant in proposed | 300-<br>1500 km                       | Road                   |
| 7.   | Clinker                              | 0.790                       | 3.300     | 4.090 | Manufacturing within this plant  | -                                     | Road                   |

- 48.6.8 The water requirement for the project is estimated as 1660 m<sup>3</sup> /day (existing: 456 m<sup>3</sup>/day; proposed: 1204 m<sup>3</sup>/day), out of which 1439 m<sup>3</sup>/day (existing: 378 m<sup>3</sup>/day; proposed: 1061 m<sup>3</sup>/day) of fresh water requirement will be obtained from the Umtyrngai Nallah and the remaining requirement of 221 m<sup>3</sup>/day (existing: 73 m<sup>3</sup>/day; proposed: 143 m<sup>3</sup>/day) will be met from the treated water obtained from Common STP & proposed STP. The permission for drawl of surface water is obtained from Govt. of Meghalaya, Office of Chief Engineer (Irrigation) vide Letter. No. AGRI/IRRI- 110 /96/2004-05/08 dated 15th September 2004.
- 48.6.9 The power requirement for the project is estimated as 49.7 MW (existing: 15.5 MW; Proposed: 34.2 MW), out of which 29.53 MW will be obtained from the subsidiary power plant of Meghalaya Power Ltd., (MPL)/ Grid Power and the rest 20.17 MW will be obtained from WHR.
- 48.6.10 The capital cost of the proposed project is Rs. 1900 Crores and the capital cost for environmental protection measures is proposed as Rs. 87.3 Crores & recurring cost is 10.13 Crores/annum. The employment generation from the proposed expansion is 321 nos. (Existing: Manpower: 145; Proposed: Manpower- 176).
- 48.6.11 Proposed Terms of Reference (**Baseline data collection period: December 2020-February 2021;**):

| Attributes                                    | Sampling   |  |
|---|--|--|
|   | No. of stations  | Frequency  |
| Baseline Season                               | December 2020 to February 2021   |  |
| Wind Direction                                | From WSW to ENE  |  |
| Meteorological parameters                     | Temperature, Wind speed, Wind direction, humidity, rainfall  | Continuous recording of hourly micro meteorological data                             |
| AAQ parameters                                | PM <sub>10</sub> , PM <sub>2.5</sub> , SO <sub>2</sub> , NO <sub>2</sub> , CO  | Twice a week on 24 hrs basis for 3 months  |
| B. Noise                                      | 10 Leq Day time & Leq Night time   | Continuous monitoring for 24 hours at each location, once during the study period    |
| C. Water                                      | 05 Ground water & 02 Surface water   | Once during the study period   |
| Surface water/Ground water quality parameters | Monitoring for relevant parameters as per drinking water standard IS – 10500   |  |
| D. Land                                       | 09   | Once during the study period   |
| a. Soil quality Land use                      | Qualitative and Quantitative Parameters to check soil fertility  |  |
| E. Biological<br>a. Aquatic<br>Terrestrial    | 10 km radius study area<br>The greenbelt development status & green area in m <sup>2</sup> and survival rate of the planted Trees will be monitored. | Primary survey during study period. Secondary data collection from forest department |

| Attributes                   | Sampling   |  |
|------------------------------|--|--|
|                              | No. of stations  | Frequency  |
| F. Socio-economic parameters | 10 km radius study area<br>Need based survey and socio-economic survey (selected samples) will be carried out. | Primary survey during study period. Secondary data collection from govt offices, villages, panchayats, census of India records |

48.6.12 It has been reported by PP that, there is no violation under EIA Notification, 2006/court case/show cause/direction related to the project under consideration.

48.6.13 Name of the EIA consultant: M/s. Perfect Enviro Solutions [NABET Certificate no. NABET/EIA/1922/RA 0184 valid up to 27/05/2022].

#### Observations of the Committee

48.6.14 The EAC noted the following:

- i. The instant proposal for setting up of a new Line- II for production of Clinker 3.3 MTPA, Cement -2.0 MTPA and WHRB-15.5 MW at existing cement plant site of Star Cement Limited, taking total capacity to 4.09 MTPA Clinker, 2.99 MTPA Cement with 20.17 MW Waste Heat Recovery Power Plant located in Lumshnong Village, Khliehriat Tehsil, East Jaintia Hills District, Meghalaya.
- ii. Total project area for existing and proposed facility is 94.96 ha.
- iii. Narpuh WLS, ESZ is located at 2.25 km from the site.
- iv. Lime stone requirement will be met from the captive mine located adjacent to the cement plant. PP submitted that the limestone will be brought to the plant by 1.5 km long belt conveyor.
- v. Green belt area is proposed in 33.6% area of the total project area.

#### Recommendations of the Committee

48.6.15 After deliberations, the Committee recommended the project proposal for prescribing following specific ToRs for undertaking detailed EIA and EMP study in addition to the generic ToR enclosed at Annexure-1 read with additional ToRs at Annexure-2:

- i. Action plan for transportation of Limestone to the plant by belt conveyor shall be submitted.
- ii. 1660 KLD water shall be required and the same shall be sourced from Umtyrngai nallah. Permission shall be obtained from competent authority. Ground water abstraction is not permitted.
- iii. Traffic assessment study for limestone transportation by road during the maintenance of conveyor belt shall be submitted.
- iv. Captive limestone mine is adjacent to the cement plant, for which cumulative impact assessment shall be carried and incorporated in the EIA/ EMP report.
- v. Action plan for green belt development covering 33% of the project area all along the periphery of the project site with a density of 2500 trees per hectare shall be submitted.
- vi. Action plan for co-processing of hazardous waste in the kiln shall be submitted.
- vii. Action plan to limit the dust emission from all the stacks below 30 mg/Nm<sup>3</sup> shall be furnished.
- viii. Action plan for fugitive emission control in the plant premises shall be provided.

- ix. Certified map from Chief Wildlife Warden indicating the distance between the ESZ boundary of Narpuh Wildlife Sanctuary and project site shall be submitted.

48.7 Expansion of Steel Plant – Establishment of new Pellet plant (1,50,000 TPA), Expansion of DRI Kilns (Sponge Iron from 30,000 TPA to 90,000 TPA), Establishment of New WHRB based Power Plant 6.0 MW, AFBC based Power Plant 4.0 MW, Ferro Alloy (FeSi-7,000TPA / FeMn-25,200TPA / SiMn-14,400 TPA /Pig Iron -23,760 TPA), Briquetting plant – 100 Kg/hr and Establishment of Fly Ash Based Brick Manufacturing Unit (15,000 Bircks/ day) by **M/s. Reactive Metals of India Private Limited** located at Sy. Nos. 29/UU, 31/A, 33, 33/A, 33/AA, 34/E, 34/EE, 40/A, 40/AA & 41/E Appajipally Village, Balanagar Mandal, **Mahaboobnagar District Telangana**. [Online Proposal No. IA/TG/IND/235982/2021; File No.: IA-J-11011/457/2021-IA-II(IND-I)] – **Prescribing of Terms of Reference – regarding.**

48.7.1 M/s. Reactive Metals of India Private Limited has made an application online vide proposal no. IA/TG/IND/235982/2021 dated 27<sup>th</sup> October 2021 along with the application in prescribed format (Form-I), copy of pre-feasibility report and proposed ToR for undertaking detailed EIA study as per the EIA Notification, 2006. The proposed project activity is listed at S. No. 3 (a) under Category “A” of the schedule of the EIA notification, 2006 being appraised at Central Level.

48.7.2 The Hon`ble High Court of Andhra Pradesh at Hyderabad (Combined state) has passed a W.P.M.P. No.3981/2005 order dated 15<sup>th</sup>September 2005 saying that “Respondent (SPCB) not to entertain any further applications and grant any Consent for establishment of any new industrial units during the pendency of this writ petition”. M/s. Reactive Metals of India Private Limited is one of the respondents in this writ petition.

#### **Observations of the Committee**

48.7.3 The EAC noted the following:

- i. Instant proposal is for obtaining TOR for undertaking EIA study for expansion of steel plant at Appajipalli Village, Balanagar Mandal, Mahboobnagar District of Telangana.
- ii. There is a court case by Hon`ble High Court of Andhra Pradesh at Hyderabad (Combined state) has passed a W.P.M.P. No.3981/2005 order dated 15/09/2005 saying that “Respondent (SPCB) not to entertain any further applications and grant any Consent for establishment of any new industrial units during the pendency of this writ petition”. M/s. Reactive Metals of India Private Limited is one of the respondents in this writ petition. As on date, case is pending before Hon`ble High Court of Andhra Pradesh and no further direction passed till date.

#### **Recommendations of the Committee**

48.7.4 In view of the foregoing and after detailed deliberations, the committee has recommended to return the proposal in its present form.

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**12<sup>th</sup> November, 2021**

48.8 Expansion of Grey Cement Plant (Clinker 2,62,500 TPA to 8,77,950 TPA & Cement 4,71,900 TPA to 13,33,530 TPA) along with production of White Cement (Clinker 4,95,000 TPA & Cement 5,54,400 TPA) by installation of New Line - II by **M/s. J K Cement Works, Gotan (Unit of JK Cement Ltd.)** at Village Gotan, Tehsil Merta, **District Nagaur, Rajasthan** [Online Proposal No. IA/RJ/IND/150350/2017, File No. J-11011/63/2008-IA (II)] –**Environment Clearance – regarding.**

48.8.1 M/s. J. K. Cement Works, Gotan (Unit of JK Cement Ltd.) has made an online application *vide* proposal no. IA/RJ/IND/150350/2017 dated 27/10/2021 along with copy of EIA/EMP report, Form-2 and copy of certified EC Compliance report seeking Environmental Clearance (EC) under the provisions of the EIA Notification, 2006 for the project mentioned above. The proposed project activity is listed at schedule no. 3(b) Cement plants Under Category “A” of the schedule of the EIA Notification, 2006 and appraisal at Central Level.

**Details submitted by the project proponent**

48.8.2 The detail of the ToR is furnished as below:

| <b>Date of application</b> | <b>Consideration</b>   | <b>Details</b>                  | <b>Date of accord</b> |
|----------------------------|--|---------------------------------|-----------------------|
| 26/09/2017                 | 24 <sup>th</sup> meeting of EAC (Industry-I) held during 13 <sup>th</sup> to 15 <sup>th</sup> Nov., 2017 | Terms of Reference              | 29/11/2017            |
| 24/09/2018                 | 1 <sup>st</sup> meeting of REAC (Industry-I) held during 26 <sup>th</sup> to 28 <sup>th</sup> Nov., 2018 | Amendment in Terms of Reference | 08/03/2019            |

48.8.3 The project of M/s. J. K. Cement Works, Gotan (Unit of JK Cement Ltd.) located at Gotan Village, Merta Tehsil, Nagaur District, Rajasthan State is for expansion of Grey Cement Plant (Clinker 2,62,500 TPA to 8,77,950 TPA & Cement 4,71,900 TPA to 13,33,530 TPA) along with production of White Cement (Clinker 4,95,000 TPA & Cement 5,54,400 TPA) by installation of New Line – II.

48.8.4 Environmental site settings

| <b>S No</b> | <b>Particulars</b>              | <b>Details</b>   | <b>Remark</b>   |
|-------------|---------------------------------|--|---|
| i.          | Total land                      | 68.99 ha (Existing - 51.82 ha + additional - 17.17 ha)<br><br>The proposed expansion will be carried out in the existing plant area as well as the additional land available with the company. | Land use of the existing land area is already industrial and land use of additional 17.17 ha area is private barren land which will be converted into industrial. |
| ii.         | Land acquisition details as per | Total land is under the possession of the company.   | -   |

| S No  | Particulars  | Details   | Remark |
|-------|--|---|--------|
|       | MoEF&CC O.M. dated 7/10/2014   |   |        |
| iii.  | Existence of habitation & involvement of R&R, if any.  | No habitation exist within the plant site and R & R is not applicable.  | -      |
| iv.   | Latitude and Longitude of the project site   | Latitude:<br>26°38'14.04" N to 26°38'54.16" N<br>Longitude:<br>73°43'06.67" E to 73°44'05.70" E   | -      |
| v.    | Elevation of the project site  | 334 m above mean sea level  | -      |
| vi.   | Involvement of Forest land if any.   | No Forest Land is Involved in the project area.   | -      |
| vii.  | Water body exists within the project site as well as study area  | <b>Project site:</b><br>No water body exist within the project site.<br><b>Study area:</b><br>Following seasonal water bodies falls within 10 km radius:<br><ul style="list-style-type: none"> <li>• Banka Bala Nadi (8.0 km in SE direction)</li> <li>• Ratri Nadi (9.0 km in NW direction)</li> </ul> | -      |
| viii. | Existence of ESZ/ESA/national park /wildlife sanctuary/ biosphere reserve/tiger reserve/elephant reserve etc. if any within the study area | Nil.  | -      |

48.8.5 The existing project was accorded Environmental Clearance *vide* letter no. J-11011/63/2008-IA (II) dated 18/08/2008 for Grey Cement manufacturing (84,000 TPA to 4,71,900 TPA) and setting up of Clinker (2,62,500 TPA) manufacturing at Village Gotan, Tehsil Merta, District Nagaur, Rajasthan. The latest Consent to Operate for the existing unit was accorded by Rajasthan State Pollution Control Board *vide* their letter no. F (Tech)/Nagaur (Merta)/ 5(1)/ 2009-2010/ 7888-7890 dated 19/12/2017. The validity of CTO is up to 30/09/2022.

48.8.6 Implementation status of the existing EC:

| S. No. | Facilities | Units | As per EC dated 18/08/2008 | Implementation Status as on date | Production as per CTO |
|--------|------------|-------|----------------------------|----------------------------------|-----------------------|
| 1.     | Clinker    | TPA   | 2,62,500                   | Operational                      | 2,62,500              |
| 2.     | Cement     | TPA   | 4,71,900                   | Operational                      | 4,71,900              |

48.8.7 The unit configuration and capacity of existing and proposed unit are given as below:

| S No | Product Name | Existing Unit        |                   | Proposed Unit |                                      | Total (Existing + Proposed) |                                       |
|------|--------------|----------------------|-------------------|---------------|--------------------------------------|-----------------------------|---------------------------------------|
|      |              | Configuration        | Production in TPA | Configuration | Production in TPA                    | Configuration               | Production in TPA                     |
| 1.   | Clinker      | Kiln - 35 TPH        | Grey - 2,62,500   | 80 TPH        | Grey - 6,15,450;<br>White - 4,95,000 | 35 + 80 TPH                 | Grey - 8,77,950;<br>White - 4,95,000  |
| 2.   | Cement       | Cement Mill - 65 TPH | Grey - 4,71,900   | 2 x 150 TPH   | Grey - 8,61,630;<br>White - 5,54,400 | 65 + (2 x 150) TPH          | Grey - 13,33,530;<br>White - 5,54,400 |

After expansion, unit will produce either grey clinker or proportionately white at a time (white and grey convertible facility)

48.8.8 The details of the raw material requirement for the proposed expansion cum proposed project along with its source and mode of transportation is given as below:

| S No                | Raw Material                  | Requirement (TPA) |            |           | Source                                       | Distance /*Mode of Transportation |
|---------------------|-------------------------------|-------------------|------------|-----------|--|-----------------------------------|
|                     |                               | Existing          | Additional | Total     |  |                                   |
| <b>Grey Cement</b>  |                               |                   |            |           |  |                                   |
| 1.                  | Limestone                     | 3,48,150          | 8,16,090   | 11,64,240 | Nearby Mines & local Vendors                 | 13 - 22 km/ Road                  |
| 2.                  | Clay / Feldspar               | 61,380            | 1,44,210   | 2,05,590  | Own Mines, Existing / local vendors          | 20 - 250 km/ Rail and Road        |
| 3.                  | Laterite/Red Ochre/ Fluorspar |                   |            |           | Existing / local vendors                     | 300 - 750 km / Rail and Road      |
| 4.                  | Fly Ash                       | 1,65,000          | 3,01,620   | 4,66,620  | Suratgarh TPP, Existing / Local Vendors      | 400 km/ Rail and Road             |
| 5.                  | Gypsum/ Selenite              | 33,000            | 43,230     | 76,230    | Own Existing Mines at Thob/ Existing vendors | 500 km/ Rail and Road             |
| 6.                  | Grinding aid                  | 99                | 181.5      | 280.5     | Existing / local vendors                     | 500 km/ Rail and Road             |
| <b>White Cement</b> |                               |                   |            |           |  |                                   |
| 1.                  | Limestone                     | Nil               | 6,33,270   | 6,33,270  | Nearby Mines & local Vendors                 | 13 - 22 km/ Road                  |
| 2.                  | Clay / Feldspar / Fluorspar   | Nil               | 1,38,930   | 1,38,930  | Own Mines, Existing / local vendors          | 20 - 250 km/ Rail and Road        |
| 3.                  | Gypsum/ Selenite              | Nil               | 22,110     | 22,110    | Own Existing Mines at Thob/ Existing vendors | 250 - 500 km/ Rail and Road       |
| 4.                  | Grinding aid and PI           | Nil               | 44,550     | 44,550    | Existing / local vendors                     | 500 km/ Rail and Road             |

48.8.9 The existing fresh water requirement is 666 KLD. Additional 500 KLD fresh water will be required for proposed expansion project. Thus, the total fresh water requirement after proposed expansion will be 1166 KLD, which will be sourced from Ground Water. The permission for withdrawal of 1166 KLD of groundwater was obtained from CGWA vide Lr. No. 21-4/247/WR/CGWA/2008-1792 dated 30/11/2015. Renewal of NOC for

withdrawal of 1166 KLD has been obtained from CGWA vide NOC no. CGWA/NOC/IND/REN/2/2021/6057, dated 30/07/2021 (valid up to 29/11/2022).

48.8.10 The existing power requirement is 5200 KVA (5.2 MW). Additional 10000 KVA (10 MW) power will be required for proposed expansion project. Thus, the total power requirement after proposed expansion will be 15200 KVA (15.2 MW); which is being / will be purchased from AVVNL, Open Excess Power (IEX) & CPP.

48.8.11 Baseline Environmental Studies

| Period                               | Winter season (December, 2020 to February, 2021) (Re-monitoring)   |                         |                       |                         |                    |        |        |     |      |
|--------------------------------------|--|-------------------------|-----------------------|-------------------------|--------------------|--------|--------|-----|------|
| AAQ parameters at 08 locations       | PM <sub>2.5</sub> - 27.9 to 46.8 µg/m <sup>3</sup><br>PM <sub>10</sub> - 63.2 to 90.2 µg/m <sup>3</sup><br>SO <sub>2</sub> - 6.7 to 13.1 µg/m <sup>3</sup><br>NO <sub>2</sub> - 12.3 to 24.9 µg/m <sup>3</sup><br>CO - BDL<br>PAH- BDL   |                         |                       |                         |                    |        |        |     |      |
| AAQ modeling (Incremental GLC)       | PM = 0.88 µg/m <sup>3</sup><br>SO <sub>2</sub> = 1.77 µg/m <sup>3</sup><br>NO <sub>x</sub> = 2.27 µg/m <sup>3</sup>  |                         |                       |                         |                    |        |        |     |      |
| Ground water quality at 11 locations | pH - 7.46 to 7.96<br>Total Hardness - 216.98 to 713.25 mg/l<br>Alkalinity - 313.58 to 402.65 mg/l<br>TDS - 726 to 3121 mg/l  |                         |                       |                         |                    |        |        |     |      |
| Surface water quality                | Surface water samples could not be collected; as all the water bodies were seasonal and were found dry during the study period.  |                         |                       |                         |                    |        |        |     |      |
| Noise levels                         | Noise Level During Day Time - 52.1 to 69.2 Leq dB (A)<br>Noise Level During Night time - 42.6 to 59.2 Leq dB (A)   |                         |                       |                         |                    |        |        |     |      |
| Traffic assessment study findings    | <ul style="list-style-type: none"> <li>Traffic survey was conducted at MDR 75 (adjacent in ENE direction from the plant site).</li> <li>Due to the proposed expansion project, there will be addition of Heavy and Light motor vehicles in the existing traffic.</li> </ul> <p>Total No. of increased trucks / tankers per day (inward) = 259<br/>Total No. of increased trucks / tankers per day (outward) = 39<br/>Total No. of increased trucks / tankers per day (inward + outward) = 298<br/>Increase in PCU / day = 298 x 3 = 894</p> <p><b>Existing Traffic Scenario and LOS (Level of Service)</b></p> <table border="1"> <thead> <tr> <th>Road</th> <th>V (Volume in PCU/hr.)</th> <th>C (Capacity in PCU/hr.)</th> <th>Existing V/C Ratio</th> </tr> </thead> <tbody> <tr> <td>MDR 75</td> <td>141.81</td> <td>625</td> <td>0.22</td> </tr> </tbody> </table> <p><b>Modified Traffic Scenario and LOS (Level of Service)</b></p> | Road                    | V (Volume in PCU/hr.) | C (Capacity in PCU/hr.) | Existing V/C Ratio | MDR 75 | 141.81 | 625 | 0.22 |
| Road                                 | V (Volume in PCU/hr.)  | C (Capacity in PCU/hr.) | Existing V/C Ratio    |                         |                    |        |        |     |      |
| MDR 75                               | 141.81   | 625                     | 0.22                  |                         |                    |        |        |     |      |

|                 |  |                            |                              |                                |                  |
|-----------------|--|----------------------------|------------------------------|--------------------------------|------------------|
|                 | <b>Road</b>  | <b>Increased PCU / hr.</b> | <b>V (Volume in PCU/hr.)</b> | <b>C (Capacity in PCU/hr.)</b> | <b>V/C Ratio</b> |
|                 | MDR 75   | 894/24=37.25               | 141.81+37.25 = 179.06        | 625                            | 0.28             |
|                 | <ul style="list-style-type: none"> <li>The LOS value is “Very Good” for MDR-75 after adding additional traffic due to proposed expansion project.</li> </ul> |                            |                              |                                |                  |
| Flora and fauna | No Schedule - I species have been observed and recorded in the study area. No Critically Endangered flora found in the study area.                           |                            |                              |                                |                  |

48.8.12 The details of solid and hazardous waste generation along with its mode of treatment/disposal is furnished as below:

| S. No. | Type of Waste   | Waste               | Source                                  | Quantity generated | Mode of Treatment / Disposal   |
|--------|-----------------|---------------------|---|--------------------|--|
| 1.     | Solid Waste     | Dust                | Cement Plant                            | -                  | Dust collected from various APCEs will be totally recycled into the process. |
| 2.     | Solid Waste     | STP Sludge          | STP                                     | 1.15 Tonnes / year | Used as manure for greenbelt development / plantation                        |
| 3.     | Hazardous Waste | Used Oil (Cat. 5.1) | Different sections of Plant maintenance | 35 KL/annum        | Will be sold to CPCB registered recycler                                     |

48.8.13 Public Consultation:

|                                |   |
|--------------------------------|---|
| Details of advertisement given | “Dainik Bhaskar” and “Rajasthan Patrika” - 15 <sup>th</sup> December, 2019  |
| Date of public consultation    | 17/01/2020  |
| Venue                          | Gram Panchayat Bhawan, Gotan, Tehsil - Merta, District - Nagaur (Rajasthan) |
| Presiding Officer              | Shri Dinesh Kumar Yadav, District Collector and District Magistrate, Nagaur |
| Major issues raised            | Employment, Environment & Pollution, Health, Education, Social.             |

**Action plan as per MoEF&CC O.M. dated 30/09/2020**

| S No | Concerns raised during the Public Hearing | Physical activity to be done            | Unit of Measurement   |                                       |                                      | Cost (in Lakhs) |
|------|---|---|-----------------------|---------------------------------------|--------------------------------------|-----------------|
|      |   |   | 01 <sup>st</sup> Year | 02 <sup>nd</sup> Year                 | 03 <sup>rd</sup> Year                |                 |
| 1.   | Education                                 | Renovation of existing School Buildings | 05 (Village Gotan)    | 01 (Village Tukanliya)<br>01 (Village | 01 (Village Talanpur)<br>01 (Village | 105             |

| S No | Concerns raised during the Public Hearing | Physical activity to be done  | Unit of Measurement          |   |   | Cost (in Lakhs) |
|------|---|---|------------------------------|---|---|-----------------|
|      |   |   | 01 <sup>st</sup> Year        | 02 <sup>nd</sup> Year                                 | 03 <sup>rd</sup> Year                               |                 |
|      |   |   |                              | Dhannapa)   | Harslav)  |                 |
|      |   | Provide Interactive smart classes equipment / gadgets   | 05 (Village Gotan)           | 05 (Village Tukanliya)<br>05 (Village Dhannapa)       | 05 (Village Talanpur)<br>05 (Village Harslav)       | 50              |
|      |   | Providing sports equipment to Govt. school  | Village Gotan                | Village Tukanliya & Village Dhannapa                  | Village Talanpur & Village Harslav                  | 50              |
| 2.   | Health                                    | Providing Oxygen Machine, Bed, Wheel Chair, Stretcher in Public Health Centre   | 01 Nos. each (Village Gotan) | 01 Nos. each (Village Tukanliya) & (Village Dhannapa) | 01 Nos. each (Village Talanpur) & (Village Harslav) | 60              |
| 3.   | Skill Development                         | Establishment of Skill Development centre for Youth (ITI)   | 1 Nos. (Village Gotan)       | -   | -   | 35              |
|      |   | Establishment of training facilities (Achar making, basket & flower pot making, sewing & tailoring, Dairy farming etc.) | 1 Nos. (Village Gotan)       | 1 Nos. (Village Tukanliya) & (Village Dhannapa)       | 1 Nos. (Village Tukanliya) & (Village Dhannapa)     | 85              |
| 4.   | Goshala Development                       | Renovation of Ghoshala  | 1 Nos. (Village Gotan)       | 1 Nos. (Village Tukanliya)                            | 1 Nos. (Village Dhannapa)                           | 30              |
| 5.   | Infrastructure Development                | Construction of playground at school  | 1 Nos. (Village Gotan)       | -   | -   | 10              |
|      |   | Construction of Rain Water Harvesting Structure   | 05 (Village Gotan)           | 05 (Village Tukanliya)<br>05 (Village Dhannapa)       | 05 (Village Talanpur)<br>05 (Village Harslav)       | 35              |
|      |   | Establishment of water plant for safe drinking water  | 01 (Village Tukanliya)       | 01 (Village Dhannapa)<br>01 (Village Talanpur)        | 01 (Village Harslav)                                | 30              |
|      |   | Installation of Solar   | 20                           | 20  | 20  | 25              |

| S No         | Concerns raised during the Public Hearing | Physical activity to be done  | Unit of Measurement   |  |   | Cost (in Lakhs) |
|--------------|---|---|-----------------------|--|---|-----------------|
|              |   |   | 01 <sup>st</sup> Year | 02 <sup>nd</sup> Year                                  | 03 <sup>rd</sup> Year                         |                 |
|              |   | Lights along roads  | (Village Gotan)       | (Village Tukanliya)<br>20<br>(Village Dhannapa)        | (Village Talanpur)<br>20<br>(Village Harslav) |                 |
| 6.           | Plantation                                | Distribution/Plantation of saplings and tree guard in the village Govt. offices and schools | 1000 (Village Gotan)  | 800 Nos. (Village Tukanliya)<br>800 (Village Dhannapa) | 800 Nos. (Village Harslav)                    | 17              |
| <b>Total</b> |   |   |                       |  |   | <b>532</b>      |

48.8.14 The capital cost of the project is Rs. 800 Crores and the capital cost for environmental protection measures is proposed as Rs. 60 Crores. The annual recurring cost towards the environmental protection measures is proposed as Rs 4.2 Crores. The employment generation from expansion project is around 250 persons during operational phase and approx. 2000 contract labours will also be employed during construction. The details of cost for environmental protection measures are as follows:

| S. No.             | Description of Item  | Existing (Rs. In Crores) |                |
|--------------------|--|--------------------------|----------------|
|                    |  | Capital Cost             | Recurring Cost |
| i.                 | Air & Noise Pollution Control & House Keeping measures     | 26                       | 1.5            |
| ii.                | Water Pollution Control and Rain Water Harvesting Measures | 15                       | 0.7            |
| iii.               | Environment Monitoring and management                      | 12                       | 1.3            |
| iv.                | Greenbelt Development                                      | 07                       | 0.7            |
| <b>Grant Total</b> |  | <b>60</b>                | <b>4.2</b>     |

48.8.15 Greenbelt is being/will be developed in 22.76 ha which is about 33% of the total project area (existing + additional); out of which 18.5 ha area has already been developed. A 20 m wide greenbelt, consisting of at least 3 tiers around plant boundary has been/will be developed as greenbelt and green cover as per CPCB/MoEFCC, New Delhi guidelines. Local and native species will be planted with a density of 2500 trees per hectare. Total no. of 10650 saplings will be planted and nurtured in 4.26 Hectares in 4 years.

48.8.16 The proponent has mentioned that there is no court case or violation under EIA Notification to the project or related activity.

48.8.17 Name of the EIA consultant: J.M. EnviroNet Pvt. Ltd. [S.No. 44, List of ACOs with their Certificate / Extension Letter no. Rev. 15, October 11, 2021].

**Certified compliance report from Regional Office:**

- 48.8.18 The Status of compliance of earlier EC was obtained from Integrated Regional Office, Jaipur *vide* letter no. IV/ENV/R/Th.-32/581/2008/SPL-6 dated 05/02/2021 in the name of M/s. J. K. Cement Works. As per the report, there are no major non-compliances and necessary steps have been taken by the unit to ensure the compliance of prescribed EC conditions.
- 48.8.19 During the meeting, project proponent submitted written submission on the following points:
- PP commits that the ground water recharge will be 200% of the total ground water withdrawal.
  - The revised cost of EMP was submitted along with breakup. The updated capital cost towards Environmental Protection Measures is Rs. 60 Crores and recurring cost is Rs. 4.2 Crores / annum. The submitted details have been updated at table 48.8.14.
  - PP also submitted the following safety measures adopted / to be adopted w.r.t ammonia storage; and monitoring of ammonia:
    - i. SNCR system will use liquid Ammonia of concentration less than 25% only in double layer storage tank.
    - ii. Ammonia Gas Detectors will be installed so that leakage can be detected, audio visual signal will be provided during leakage and water Sprinkler system will be operate on storage tank to dilute ammonia in case of leakage.
    - iii. Dyke of double capacity will be made available for surrounding area of tank to arrest dilute ammonia and water.
    - iv. Emergency Shower and Eye wash System will be installed, so that for safety of personnel, if any person comes in the contact of ammonia; then he can use shower to clean his body.
    - v. Emergency evacuation plan will be available at site.
    - vi. Slip ammonia measurement analyzer with laser technology will be installed at stack for continuous monitoring and control.
  - Project proponent has submitted revised Corporate Environment Policy. As per revised policy, concerned department (environmental head) will inform directly to Board of director's/Business head for any non-compliance/infringement/ deviation/ violation of the environmental or forest norms.
  - Project proponent will install Bag Filters & Bag House with PTFE bags.
  - Alternative fuel will be used in the Kiln as per availability, suitability and feasibility.
  - Company will meet SO<sub>2</sub> norms with 9% Sulphur content in Petcoke by using Feldspar & Proper mixing/ blending of Pet coke piles at yard.
  - Additional greenbelt will be developed in one-year span only.
  - In view of provision for WHRS/Heat exchanger, Company will provide heat exchanger for recovery of additional heat and directly use the same in kiln as fresh air requirement. It will be thermally efficient and reduce fuel requirement.

**Observations of the Committee**

- 48.8.20 The EAC noted the following:
- i. The Committee deliberated on the revised cost of EMP submitted by Project Proponent and found it satisfactory.
  - ii. The EAC found that the EIA/EMP report is in order reflecting the present

environmental concerns and the projected scenario for all the environmental components arising out of the proposed project with respective mitigation measures. The EAC noted that the baseline data reported and incremental GLC due to the proposed project were within NAAQ standards.

- iii. The EAC also deliberated on the certified compliance report of RO, public hearing issues as well as action plan to address the issues raised during public hearing and found it satisfactory.
- iv. The EAC noted that the written submissions made by the project proponent during the course of meeting is satisfactory.

### **Recommendations of the Committee**

48.8.21 In view of the foregoing and after detailed deliberations, the committee recommended the instant proposal for grant of Environment Clearance under the provisions of EIA Notification, 2006 subject to the stipulation of specific conditions and general conditions as per the Ministry's Office Memorandum No. 22-34/2018-III dated 9/8/2018 based on project specific requirements.

#### **A. Specific conditions**

- i. 1166 KLD water after expansion shall be met from ground water sources as approved by the competent Authority. Surface water sources like mine pit water, rain water harvested water and use of treated sewage water from nearby municipal corporations shall be explored and action plan in this regard shall be submitted to the Regional Office of the MoEF&CC for gradual phase out of ground water in a time frame of two years from the date of issue of EC.
- ii. Green belt shall be developed in 22.76 ha area (i.e. 33% of the total project area of 68.99 ha) uniformly all around the periphery of the project site with tree density of 2500 tree/ ha by 31/12/2022 as committed.
- iii. All the recommendations made in the risk assessment report inter-alia ammonia storage shall be implemented and compliance status in this regard shall be furnished to the Regional Office of the MoEF&CC along with the six monthly compliance report.
- iv. Rain Water Harvesting shall be carried out to recharge 200 % of annual ground water withdrawal as committed by the PP.
  - v. Particulate matter emissions from all the stacks shall be less than 30 mg/Nm<sup>3</sup>.
  - vi. Petcoke dosing shall be controlled automatically to control SO<sub>2</sub> emission from chimney within the prescribed limits.
- vii. Dioxin and furans shall be monitored twice a year during co-processing of hazardous waste and report shall be submitted to the Regional Office of the MoEF&CC.

#### **B. General conditions**

##### **I. Statutory compliance:**

- i. The Environment Clearance (EC) granted to the project/ activity is strictly under the provisions of the EIA Notification, 2006 and its amendments issued from time to time. It does not tantamount/ construe to approvals/ consent/ permissions etc., required to be obtained or standards/conditions to be followed under any other Acts/Rules/Subordinate legislations, etc., as may be applicable to the project.

**II. Air quality monitoring and preservation**

- i. The project proponent shall install 24x7 Continuous Emission Monitoring System (CEMS) at process stacks to monitor stack emission as well as 4 Nos. Continuous Ambient Air Quality Station (CAAQS) for monitoring AAQ parameters with respect to standards prescribed in Environment (Protection) Rules 1986 as amended from time to time. The CEMS and CAAQMS shall be connected to SPCB and CPCB online servers and calibrate these systems from time to time according to equipment supplier specification through labs recognized under Environment (Protection) Act, 1986 or NABL accredited laboratories.
- ii. The project proponent shall monitor fugitive emissions in the plant premises at least once in every quarter through labs recognized under Environment (Protection) Act, 1986.
- iii. The project proponent shall provide leakage detection and mechanized bag cleaning facilities for better maintenance of bags.
- iv. The project proponent shall ensure covered transportation and conveying of ore, coal and other raw material to prevent spillage and dust generation; Use closed bulkers for carrying fly ash;
- v. The project proponent shall provide wind shelter fence and chemical spraying on the raw material stock piles;
- vi. Ventilation system shall be designed for adequate air changes as per the prevailing norms for all tunnels, motor houses, and cement bagging plants.

**III. Water quality monitoring and preservation**

- i. The project proponent shall install 24x7 continuous effluent monitoring system with respect to standards prescribed in Environment (Protection) Rules 1986 vide G.S.R. No. 612 (E) dated 25<sup>th</sup> August, 2014 (Cement) and subsequent amendment dated 9<sup>th</sup> May, 2016 (Cement) and 10<sup>th</sup> May, 2016 (in case of Co-processing Cement) as amended from time to time; S.O. 3305 (E) dated 7<sup>th</sup> December 2015 (Thermal Power Plants) as amended from time to time) and connected to SPCB and CPCB online servers and calibrate these system from time to time according to equipment supplier specification through labs recognized under Environment (Protection) Act, 1986 or NABL accredited laboratories.
- ii. The project proponent shall regularly monitor ground water quality at least twice a year (pre- and post-monsoon) at sufficient numbers of piezometers/sampling wells in the plant and adjacent areas through labs recognized under Environment (Protection) Act, 1986 and NABL accredited laboratories.
- iii. Sewage Treatment Plant shall be provided for treatment of domestic wastewater to meet the prescribed standards.
- iv. Garland drains and collection pits shall be provided for each stock pile to arrest the run-off in the event of heavy rains and to check the water pollution due to surface run off
- v. Water meters shall be provided at the inlet to all unit processes in the cement plant.
- vi. The project proponent shall make efforts to minimize water consumption in the cement plant complex by segregation of used water, practicing cascade use and by recycling treated water.

**IV. Noise monitoring and prevention**

- i. Noise quality shall be monitored as per the prescribed Noise Pollution (Regulation and Control) Rules, 2000 and report in this regard shall be submitted to Regional Officer of the Ministry as a part of six-monthly compliance report.

**V. Energy Conservation measures**

- i. Waste heat recovery system shall be provided for kiln and cooler.
- ii. The project proponent makes efforts to achieve power consumption less than 65 units/ton for Portland Pozzolona Cement (PPC) and 85 units/ton for Ordinary Portland Cement (OPC) production and thermal energy consumption of 670 Kcal/Kg of clinker.
- iii. Provide solar power generation on roof tops of buildings, for solar light system for all common areas, street lights, parking around project area and maintain the same regularly.
- iv. Provide the project proponent for LED lights in their offices and residential areas.

**VI. Waste management**

- i. Used refractories shall be recycled as far as possible.

**VII. Green Belt**

- i. The project proponent shall prepare GHG emissions inventory for the plant and shall submit the program for reduction of the same including carbon sequestration by trees in the plant premises.

**VIII. Public hearing and Human health issues**

- i. Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented.
- ii. The project proponent shall carry out heat stress analysis for the workmen who work in high temperature work zone and provide Personal Protection Equipment (PPE) as per the norms.
- iii. Occupational health surveillance of the workers shall be done on a regular basis and records maintained.

**IX. Environment Management**

- i. The project proponent shall comply with the provisions contained in this Ministry's OM vide F.No. 22-65/2017-IA.III dated 30/09/2020.
- ii. The company shall have a well laid down environmental policy duly approved by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental / forest / wildlife norms / conditions. The company shall have defined system of reporting infringements / deviation / violation of the environmental / forest / wildlife norms / conditions and / or shareholders / stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report.
- iii. A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly to the head of the organization.

**X. Miscellaneous**

- i. The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.
- ii. The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.
- iii. The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.
- iv. The project proponent shall monitor the criteria pollutants level namely; PM10, SO<sub>2</sub>, NO<sub>x</sub> (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the projects and display the same at a convenient location for disclosure to the public and put on the website of the company.
- v. The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.
- vi. The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.
- vii. The project proponent 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, commencing the land development work and start of production operation by the project.
- viii. The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.
- ix. No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC).
- x. Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.
- xi. The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.
- xii. The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.
- xiii. The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.
- xiv. Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

48.9 Expansion of Steel Plant (1000 TPD Sponge Iron; 1000 TPD Billet; 50 MW Captive Power; 1000 TPD TMT to 1000 TPD Sponge Iron; 3000 TPD Billet; 3000 TPD TMT; 50 MW Captive Power) by M/s. Om Sairam Steels & Alloys located at Plot No.1,2,3,8,9,10, Add. MIDC Phase II and Gut No. 46 & 63 at Village Daregaon, District Jalna, Maharashtra. [Online Proposal No. IA/MH/IND/228546/2015, File No. IA-J-11011/57/2015-IA-II(I)] – **Environment Clearance– regarding.**

48.9.1 M/s. Om Sairam Steels and Alloys has made an online application vide proposal no. IA/MH/IND/228546/2015 dated 19/09/2021 along with copy of EIA/EMP report, Form-2 and copy of certified EC Compliance report seeking Environmental Clearance (EC) under the provisions of the EIA Notification, 2006 for the project mentioned above. The proposed project activity is listed at schedule no. 3 (a) Metallurgical industries (Ferrous & non-ferrous) under Category “A” of the schedule of the EIA notification, 2006 and appraised at Central level.

**Details submitted by Project proponent**

48.9.2 The details of the ToR are furnished as below:

| Date of application | Consideration  | Details            | Date of accord |
|---------------------|--|--------------------|----------------|
| 24/04/2019          | 8 <sup>th</sup> REAC (Industry- 1) meeting held on 26 <sup>th</sup> June, 2019 | Terms of Reference | 05/09/2019     |

48.9.3 The project of M/s. Om Sairam Steels and Alloys located at Plot No.1,2,3,8,9,10, Add. MIDC Phase II and Gut No. 46 & 63 at Village Daregaon, District Jalna, Maharashtra is for expansion of Steel Plant (1000TPD Sponge Iron; 1000 TPD Billet; 50MW Captive Power; 1000 TPD TMT to 1000 TPD Sponge Iron; 3000 TPD Billet; 3000 TPD TMT; 50 MW Captive Power).

48.9.4 Environmental Site Settings:

| SN   | Particulars  | Detail   | Remarks  |         |           |        |   |    |       |  |   |    |       |   |    |       |   |   |    |      |  |   |    |      |  |   |     |        |  |  |
|------|--|--|--|---------|-----------|--------|---|----|-------|--|---|----|-------|---|----|-------|---|---|----|------|--|---|----|------|--|---|-----|--------|--|--|
| i.   | Total land   | 6.86 ha [Government land]<br><br>Project area is 5.3473 ha along with extra land of 1.5127 ha allocated by MIDC for Greenbelt Development inside the Industrial Area.  | Land use: Industrial Land                        |         |           |        |   |    |       |  |   |    |       |   |    |       |   |   |    |      |  |   |    |      |  |   |     |        |  |  |
| ii.  | Land acquisition details as per MoEF&CC O.M. dated 7/10/2014 | Total land has been leased out from MIDC for industrial development.   | --   |         |           |        |   |    |       |  |   |    |       |   |    |       |   |   |    |      |  |   |    |      |  |   |     |        |  |  |
|      |  | <table border="1"> <thead> <tr> <th>S No</th> <th>Plot No</th> <th>Area (ha)</th> <th>Remark</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>F1</td> <td>05367</td> <td rowspan="2">Lease executed on 23<sup>rd</sup> October, 2003</td> </tr> <tr> <td>2</td> <td>F2</td> <td>0.574</td> </tr> <tr> <td>3</td> <td>F3</td> <td>0.423</td> <td>Lease executed on 8<sup>th</sup> October, 2008</td> </tr> <tr> <td>4</td> <td>F8</td> <td>0.45</td> <td>Lease executed on 2<sup>nd</sup> February, 2009</td> </tr> <tr> <td>5</td> <td>F9</td> <td>0.45</td> <td>Lease executed on 2<sup>nd</sup> February, 2009</td> </tr> <tr> <td>6</td> <td>F10</td> <td>0.9036</td> <td>Lease executed on 2<sup>nd</sup> February, 2009</td> </tr> </tbody> </table> | S No   | Plot No | Area (ha) | Remark | 1 | F1 | 05367 | Lease executed on 23 <sup>rd</sup> October, 2003 | 2 | F2 | 0.574 | 3 | F3 | 0.423 | Lease executed on 8 <sup>th</sup> October, 2008 | 4 | F8 | 0.45 | Lease executed on 2 <sup>nd</sup> February, 2009 | 5 | F9 | 0.45 | Lease executed on 2 <sup>nd</sup> February, 2009 | 6 | F10 | 0.9036 | Lease executed on 2 <sup>nd</sup> February, 2009 |  |
| S No | Plot No  | Area (ha)  | Remark   |         |           |        |   |    |       |  |   |    |       |   |    |       |   |   |    |      |  |   |    |      |  |   |     |        |  |  |
| 1    | F1   | 05367  | Lease executed on 23 <sup>rd</sup> October, 2003 |         |           |        |   |    |       |  |   |    |       |   |    |       |   |   |    |      |  |   |    |      |  |   |     |        |  |  |
| 2    | F2   | 0.574  |  |         |           |        |   |    |       |  |   |    |       |   |    |       |   |   |    |      |  |   |    |      |  |   |     |        |  |  |
| 3    | F3   | 0.423  | Lease executed on 8 <sup>th</sup> October, 2008  |         |           |        |   |    |       |  |   |    |       |   |    |       |   |   |    |      |  |   |    |      |  |   |     |        |  |  |
| 4    | F8   | 0.45   | Lease executed on 2 <sup>nd</sup> February, 2009 |         |           |        |   |    |       |  |   |    |       |   |    |       |   |   |    |      |  |   |    |      |  |   |     |        |  |  |
| 5    | F9   | 0.45   | Lease executed on 2 <sup>nd</sup> February, 2009 |         |           |        |   |    |       |  |   |    |       |   |    |       |   |   |    |      |  |   |    |      |  |   |     |        |  |  |
| 6    | F10  | 0.9036   | Lease executed on 2 <sup>nd</sup> February, 2009 |         |           |        |   |    |       |  |   |    |       |   |    |       |   |   |    |      |  |   |    |      |  |   |     |        |  |  |

| SN    | Particulars  | Detail   |                          |                  |   | Remarks |
|-------|--|--|--------------------------|------------------|---|---------|
|       |  | 7  | Gut.46                   | 1.21             | Amalgamated vide letter No MIDC/ROA/ADDI Jalna/108/2009 dated 26/2/2009   |         |
|       |  | 8  | Gut.63                   | 0.8              | purchased on 17/08/2009   |         |
|       |  | 9  | D.53                     | 0.9244           | Amalgamated vide letter No 2687 dated 17/05/2018 for greenbelt development  |         |
|       |  | 10   | Adjoining plot F1,F2,F3, | 0.5883           | This area is amalgamated to plant area for greenbelt development vide letter no MIDC/ROA/ADDI Jalna/541/2010 dated 04/02/2010 |         |
| iii.  | Existence of habitation & involvement of R&R, if any.  | Proposed enhancement project is coming within the existing plant premises. Hence no land acquisition is required. Therefore, no R&R is required.   |                          |                  |   | --      |
| iv.   | Latitude and Longitude of the project site   | <b>Corner</b>  | <b>Latitude</b>          | <b>Longitude</b> |   | --      |
|       |  | A  | 19°50'53.65"             | 75°50'45.04"     |   |         |
|       |  | B  | 19°50'51.09"             | 75°50'45.15"     |   |         |
|       |  | C  | 19°50'51.12"             | 75°50'45.68"     |   |         |
|       |  | D  | 19°50'46.50"             | 75°50'41.26"     |   |         |
|       |  | E  | 19°50'46.36"             | 75°50'33.88"     |   |         |
|       |  | F  | 19°50'45.56"             | 75°50'33.93"     |   |         |
|       |  | G  | 19°50'45.42"             | 75°50'31.96"     |   |         |
|       |  | H  | 19°50'46.34"             | 75°50'31.85"     |   |         |
|       |  | I  | 19°50'46.07"             | 75°50'29.11"     |   |         |
|       |  | J  | 19°50'48.98"             | 75°50'28.76"     |   |         |
|       |  | K  | 19°50'50.00"             | 75°50'35.75"     |   |         |
| L     | 19°50'52.74"   | 75°50'35.53"   |                          |                  |   |         |
| v.    | Elevation of the project site  | 529 m above MSL  |                          |                  |   | --      |
| vi.   | Involvement of Forest land if any.   | No forest Land involved.   |                          |                  |   | --      |
| vii.  | Water body exists within the project site as well as study area  | <b>Project site:</b> Nil<br><b>Study area:</b><br>Following water bodies are present: <ul style="list-style-type: none"> <li>• Moti Talab-1.94 Km SE</li> <li>• Mukteswar Talab-3.25 Km SE</li> <li>• Kundalika River-3.93 NE</li> </ul> |                          |                  |   | --      |
| viii. | Existence of ESZ/ ESA/ national park/ wildlife sanctuary/ biosphere reserve/ tiger reserve/ elephant reserve etc. if any within the study area | Nil  |                          |                  |   | --      |

48.9.5 The existing project was accorded environmental clearance vide Ir.no. J-11011/57/2015-IA.II(I) dated 22/01/2018 and amended on 17/09/2019. Consent to Operate for the existing unit was accorded by Maharashtra Pollution Control Board vide Ir. no. 1.0/BO/JD(APC)Amendment/CC-1518(A) dated 23/03/2021. The validity of CTO was up to 30/06/2021. Vide Circular No. MPCB/AST/Circular/TB- dated 06/05/2021 of Maharashtra Pollution Control Board the validity of CTO is extended till 31<sup>st</sup>October 2021.MPCB granted authorization for handling of hazardous waste vide letter no. Format 1.0/CAC/UAN.No.0000049680/CO- 1911000380 dated 11/11/2019.

48.9.6 Implementation status of the existing EC.

| Sl. No. | Facilities                  | As per EC dated 30/01/2008 | As per SEAC dated 29/12/2010 | As per EC dated 22/01/2018 and amendment dated 17/09/2019                                      | Implementation Status as on date | Production as per CTO |
|---------|-----------------------------|----------------------------|------------------------------|--|----------------------------------|-----------------------|
| 1       | Induction Furnace (Billets) | 1x25 T,<br>1x30 T          | 1x25 T<br>3x30 T             | <u>EC - 22/01/2018</u><br>1x25 T,<br>4x30 T<br><br><u>Amend- 17/09/2019</u><br>1x40 T<br>3x30T | Installed                        | 1000TPD               |
| 2       | Sponge Iron                 | 2 x 500 TPD                | Nil                          | No additional capacity   | Not yet installed                | -                     |
| 3       | CPP                         | -                          | -                            | 50MW<br>(24 MW FBC + 26 MWWHRB)  | Not yet installed                | -                     |
| 4       | TMT Bars                    | 1000 TPD                   | -                            | 1000 TPD   | 1000 TPD                         | 1000 TPD              |

48.9.7 The unit configuration and capacity of existing and proposed project is given as below:

| SNo | Name                        | Existing Units                 |                | Proposed Units  |                | Total (Existing +Proposed)     |                |
|-----|-----------------------------|--------------------------------|----------------|---|----------------|--------------------------------|----------------|
|     |                             | Configuration                  | Production TPD | Configuration   | Production TPD | Configuration                  | Production TPD |
| 1   | Induction Furnace (Billets) | 1 x 40 T<br>3 x 30 T           | 1000 TPD       | 2 x 40 T & 3 x 60 T by modification of existing 3 x 30 T furnace to 3 x 60 T furnaces &addition of 1 x 40 T Furnace | 2000 TPD       | 2 x 40 T<br>3 x 60 T           | 3000 TPD       |
| 2   | Sponge Iron                 | 2 x 500 TPD                    | 1000 TPD       | -   | -              | 2 x 500 TPD                    | 1000 TPD       |
| 3   | CPP                         | 50 MW (24 MW FBC + 26 MW WHRB) | 50MW           | -   | -              | 50 MW (24 MW FBC + 26 MW WHRB) | 50MW           |
| 4   | TMT Bars                    | 1000 TPD                       | 1000 TPD       | 2000 TPD  | 2000TPD        | 3000 TPD                       | 3000 TPD       |

48.9.8 The details of the raw material requirement for the proposed project along with its source and mode of transportation is given as below:

| Raw Materials (TPD)   | Existing Raw Material Consumption (in TPA) | Additional Requirement (in TPA) | Total Requirement (in TPA) for proposed expansion | Mode of Transportation | Distance from Site in Km | Source                   |
|-----------------------|--|---------------------------------|---|------------------------|--------------------------|--------------------------|
| Iron Ore Pellets      | 478500                                     | 0                               | 478500  | Road                   | 400                      | Bellari                  |
| Indian Coal           | 0  | 33700                           | 33700   | Road                   | 800                      | Chandrapur               |
| DRI Grade Coal (B Gr) | 396000                                     | 0                               | 396000  | Road                   | 700                      | Raigarh                  |
| Iron Scrap            | 184600                                     | 440800                          | 625400  | Road                   | 100                      | Mumbai and Local Sources |
| Pig Iron              | 70000                                      | 35000                           | 105000  | Road                   | 400                      | Raipur, Bellari          |
| Dolomite              | 16500                                      | 0                               | 16500   | Road                   | 700                      | Bhilwara                 |
| Silico Manganese      | 10000                                      | 16650                           | 26650   | Road                   | 800                      | Raipur, Bellari          |
| <b>Total Quantity</b> | <b>1,155,600</b>                           | <b>526150</b>                   | <b>1,681,750</b>                                  | <b>Road</b>            |                          |                          |

48.9.9 The water requirement for the project is 832 m<sup>3</sup>/day which will be obtained from Maharashtra Industrial Development Corporation (MIDC).

48.9.10 The power requirement for the project is estimated as 58 MW, which will be obtained from the captive Power Plant (50 MW) and balance 8 MW shall be from Maharashtra State Electricity Development Corporation Limited (MSEDCL). Two Dg set of 750 KVA shall be installed for standby.

48.9.11 Baseline Environmental Studies:

|  |  |
|--|--|
| Period                                       | December 2018 to February, 2019  |
| AAQ parameters at 8 locations (Min -Max)     | PM <sub>2.5</sub> = 18.9 to 27.9µg/m <sup>3</sup><br>PM <sub>10</sub> = 42.4 to 62.2µg/m <sup>3</sup><br>SO <sub>2</sub> = 10 to 18.6µg/m <sup>3</sup><br>NO <sub>2</sub> = 11.0 to 28.4 µg/m <sup>3</sup><br>CO= 0.1 – 0.4µg/m <sup>3</sup>   |
| AAQ modelling (Incremental GLC)              | PM <sub>10</sub> = 0.04µg/m <sup>3</sup><br>PM <sub>2.5</sub> = 0.01 µg/m <sup>3</sup><br>SO <sub>2</sub> = 0.3µg/m <sup>3</sup><br>NO <sub>x</sub> = 0.03 µg/m <sup>3</sup>   |
| Groundwater quality at 5 different locations | pH: 7.2-7.8; TDS: 652 to 686 mg/l; Chlorides: 152 to 173 mg/l; Fluorides: 0.28 to 0.62 mg/l; Total Hardness: 265 to 284.2 mg/l. Heavy metals are within the limits.<br><br>Ground Water Analysis interprets typically the TDS is higher in all the bore wells and has some salinity reflected in the fluoride concentration and does not have any kind of heavy metal or iron concentration, but |

|  |   |
|--|---|
|  | presence of total coliform is some of the bore wells indicate some kind of contamination due to surrounding domestic sewage septic tanks or seepage from open drains. |
| Surface water quality at 7 different locations | pH: 7.3 to 7.8<br>DO: 2.7 to 3.8 mg/l<br>COD: 9.8 to 11.2 mg/l<br>BOD: 2.1 to 3.1 mg/l  |
| Noise levels at 5 locations                    | Night: 36.4 to 56.4 Leq<br>Day: 40.4 to 72.6 Leq  |
| Traffic assessment study findings              | The maximum daily average traffic will be 2242 PCU/day on NH 36, and hence is well within the design load for the road conditions.                                    |
| Flora and fauna                                | No endangered species found in the study area and there is no Schedule-I fauna within the study area  |

48.9.12 The details of solid and hazardous waste generation along with its mode of treatment/disposal is furnished as below:

**Hazardous Waste**

| S No | Type of Waste   | Source Name                     | Quantity (TPA) |               |               | Treatment before disposal                        | Mode of disposal          |
|------|-----------------|---------------------------------|----------------|---------------|---------------|--|---------------------------|
|      |                 |                                 | Existing       | Proposed      | Total         |  |                           |
| 1    | Spent/ Used Oil | From all motors and machineries | 1.2 KL/ Annum  | 0.6 KL/ Annum | 1.8 KL/ Annum | Collected from source and Stored in Closed Drums | Sold to Authorized Vendor |
| 2    | Used Cotton     | Handling the machineries        | 12 Kg /annum   | 2 Kg/ Annum   | 14 Kg/ Annum  | Stored in a separate closed drum                 | Sold to Authorized Vendor |
| 3    | Resins          | DM Plant                        | 0              | 0.015 TPA     | 0.015 TPA     | Shall be disposed off through Authorized Vendor  | Sold to Authorized Vendor |

**Solid Waste**

| S No | Waste  | Source                 | Quantity (TPA) | Disposal                     | Remark  |
|------|--|------------------------|----------------|------------------------------|---|
| 1    | STP Sludge                                   | STP Sludge             | 0.33           | Used as manure in green belt | Own garden  |
| 2    | Office Waste Containing papers, stationeries | Office                 | 1.65           | Sales                        | Dry waste mainly paper, other office stationery waste |
| 3    | Packing Material                             | Material Handling Area | 16.50          | Collected and Sale           | Packing Material like bag, sealing etc                |

| S No | Waste                                   | Source       | Quantity (TPA) | Disposal   | Remark  |
|------|---|--------------|----------------|--|---|
| 4    | Spent Refractory                        | Process      | 144.00         | Collected and Sale   | Shall be stored at earmarked area   |
| 5    | Dolchar                                 | DRI          | 2,47,000       | Reuse  | Will be used in FBC of on plant   |
| 6    | Ash                                     | CPP          | 1,70,937       | Reuse  | Sold to Cement Plants and use for manufacturing fly ash bricks                    |
| 7    | Slag                                    | SMS          | 80,400         | Can be used as alternative building material                 | Sale to outsiders for using as alternative building material after due TCLP test. |
| 8    | Mill scale and Scraps from Rolling Mill | Rolling Mill | 39600          | Recycle  | Recycled in Rolling Mill of own plant   |
| 9    | DRI Dust                                | DRI          | 19200          | Reused   | Will be sent to brick manufacturer  |
| 10   | GCP Sludge                              | GCP          | 1.65           | Can be used as alternative building material along with slag | Sale to outsiders for using as alternative building material                      |
| 11   | SMS Slag                                | SMS          | 16.5           |  | Sale to outsiders for using as alternative building material or tile making       |

48.9.13 Public Consultation:

|                                       |  |
|---------------------------------------|--|
| <b>Details of advertisement given</b> | Published in Times of India (English) and Sakala (Marathi daily newspaper) on 08/01/2020                                     |
| <b>Date of public consultation</b>    | 10/02/2020   |
| <b>Venue</b>                          | Project Area (Plot No.1,2,3,8,9,10, Add. MIDC Phase II and Gut No. 46 & 63 at Village Daregaon, District Jalna, Maharashtra) |
| <b>Presiding Officer</b>              | Additional District Magistrate   |
| <b>Major issues raised</b>            | i. Environmental Pollution<br>ii. Employment<br>iii. Rain Water Harvesting<br>iv. CSR  |

**Action plan as per MoEF&CC O.M. dated 30/09/2020:**

| S. No | Points Raised by Local Villagers  | Proponents/ MPCB Response   | Physical Targets   | Budget allocated in INR | Time bound budget provision (Rs. In Lakh) |  |                      |
|-------|---|---|--|-------------------------|---|--|----------------------|
|       |   |   |  |                         | Within 6 months                           | 1 <sup>st</sup> Year                   | 2 <sup>nd</sup> Year |
| 1     | Plantation with tree guard at Nearby Villages in addition to Inside Plant | Project proponent clarified that 3600 saplings will be planted in the factory area and 2000 trees shall be planted with tree guard in | 3600 saplings will be planted immediately within the factory area and 2000 saplings with tree guard will be planted in Daregoan in immediate monsoon period. | 16.58                   | 10.84                                     | 3.5 (gap plantation based on survival) | 2.24 (maintenance)   |

| S. No | Points Raised by Local Villagers   | Proponents/ MPCB Response  | Physical Targets  | Budget allocated in INR | Time bound budget provision (Rs. In Lakh) |                      |                      |
|-------|--|--|---|-------------------------|---|----------------------|----------------------|
|       |  |  |   |                         | Within 6 months                           | 1 <sup>st</sup> Year | 2 <sup>nd</sup> Year |
|       | premise plantation   | Daregaon under plantation programme during monsoon season and will be maintained.  |   |                         |   |                      |                      |
| 2     | Employment to be given to maximum people from Nearby villagers.  | Preference will be given to the local people for employment in the factory within the study area based on the qualification. Every year, as per the requirement, local people will be sent to skill development training and handholding will be provided with the help of district authorities till they get employment or self-employed. | In addition to the employment to people from nearby villages, viz. at least 50 people from nearby villages shall be given skill development training.   | 27.0                    | 9.0                                       | 9.0                  | 9.0                  |
| 3     | Control Measures for decreasing emission levels and continuous operation of the pollution control equipments | Air Pollution Control Devices shall be installed for all process streams. Dust suppression at handling of raw material and spinking of water on transportation roads within and outside the plant.   | Installation of ESP and bag filter for control of emissions and stacks for dilution of emissions, water sprinkler at identified locations are proposed. Deployment of mobile water sprinkler is also proposed for control of fugitive dust from the roads in and out sides of plant premises. Industrial vacuum cleaner shall be deployed for cleaning of inside roads. | 760.0                   | 460.0                                     | 300.0                | -                    |
| 4     | Proper attention towards Control of Water pollution  | Industry committed to install water treatment system, STP/ETP for all wastewater from regular operations. Stormwater is discharged to  | STP of 40 KLD capacity shall be installed for domestic wastewater treatment and ETP shall be installed for treatment of industrial wastewater for treatment.  | 80.0                    | 70.0                                      | 10.0                 | -                    |

| S. No | Points Raised by Local Villagers  | Proponents/ MPCB Response   | Physical Targets   | Budget allocated in INR | Time bound budget provision (Rs. In Lakh) |                      |                      |
|-------|---|---|--|-------------------------|---|----------------------|----------------------|
|       |   |   |  |                         | Within 6 months                           | 1 <sup>st</sup> Year | 2 <sup>nd</sup> Year |
|       |   | drainage of industrial area which is connected to a combined industrial settling pond before discharging outside industrial area.   | Treated wastewater will be recycled.   |                         |   |                      |                      |
| 5     | Suitable measure for Rain Water Harvesting  | Project proponent replied that rainwater harvesting is being implemented in plant premises. Based on the requirement in the villages, four rainwater harvesting structures are proposed. Structures will be designed as per the strata of local geological structure. | Rainwater structures are proposed in Daraegoan, Nagewadi, Siraswadi and Bhilpuri before on spent of immediate monsoon. | 20.00                   | 20.00                                     |                      |                      |
| 6     | Road from Daregaon to go to MIDC due to the worse condition of which it is difficult for common man to go to MIDC from Daaregaon. | This is a public road under Jalna Municipal Council (JMC). Request will be communicated to JMC. As per the advice of the JMC and MIDC, the company will support road maintenance.   | -  | -                       | -   | -                    | -                    |

48.9.14 The capital cost of the project is Rs. 107.15 Crore [Expansion] and the capital cost for environmental protection measures including budget for complying public hearing commitment is proposed as Rs. 13.68 Crore. The annual recurring cost towards the environmental protection measures is proposed as Rs 4.85 Crores. The employment generation from the proposed project/ expansion is 610 nos. The details of cost for environmental protection measures are as follows:

| S No | Description of Item         | Existing (Rs. In lakhs) |                |
|------|-----------------------------|-------------------------|----------------|
|      |                             | Capital Cost            | Recurring Cost |
| i.   | Air Pollution Control/Noise | 1140.00                 | 388.00         |
| ii.  | Water Pollution Control     | 65.00                   | 36.00          |

| S No | Description of Item                     | Existing (Rs. In lakhs) |                |
|------|---|-------------------------|----------------|
|      |   | Capital Cost            | Recurring Cost |
| iii. | Environmental Monitoring and Management | 42.00                   | 20.00          |
| iv.  | Green Belt Development                  | 19.5                    | 2.00           |
| v.   | Addressing Public Consultation concerns | 101.5                   | 39.4           |

48.9.15 Total area of the project is 6.86 ha [Project area is 5.3473 ha along with extra land of 1.5127 ha allocated by MIDC for Greenbelt Development inside the Industrial Area]. Greenbelt will be developed in 2.74 ha which is about 40 % of the total project area. A 2.5 m wide greenbelt, consisting of at least 3 tiers around plant boundary will be developed as greenbelt and green cover as per CPCB/MoEF&CC, New Delhi guidelines. Local and native species will be planted with a density of 2500 trees per hectare. Total no. of 8200 saplings will be planted and nurtured in 2.74 hectares.

48.9.16 The proponent has reported that there is no violation under EIA Notification, 2006/court case/show cause/direction related to the project under consideration.

48.9.17 Name of the EIA consultant: The baseline data was collected by M/s. Green Envirosafe Engineers & Consultant Pvt. Ltd. Pune, Maharashtra. Initially, the EIA report was prepared by M/s. Pollution & Ecology Control Service, Nagpur. Thereafter, the proponent has changed the EIA consultant namely M/s. Ardra Consulting Services Pvt. Ltd, Bhubaneswar. Presently, the EIA report has been submitted by M/s. Ardra Consulting Services Pvt. Ltd, Bhubaneswar [S. No.94, List of ACOs with their Certificate / Extension Letter no. Rev. 15, October 11, 2021].

**Certified Compliance report from the regional Office**

48.9.18 The Status of compliance of earlier EC was obtained from Regional Office, MOEF&CC vide letter no EC-409/RON/2017-NGP/7549 dated 07/12/2020 in the name of M/s Om Sairam Steel & Alloys Private Limited. PP vide letter dated 14/06/2021 requested Regional Office, MOEF&CC that the certified compliance report dated 07/12/2020 was discussed by EAC (Industry-I) during 34<sup>th</sup> meeting held on 15/04/2021 and EAC desired that a fresh status report needs to be obtained from RO on the partial/non compliances raised in the monitoring report dated 07/12/2020. Regional officer MoEF&CC inspected the project site on 09/07/2021 and has issued the report dated 01/09/2021. The details of the observations made by RO in the report dated 01/09/2021 along with its re-assessment / present status as furnished by the PP is given as below:

| S No | Non- compliances details  | Observation of IRO Report dated 01/09/2021  | Condition no. |          |         | Response by PP                                 |
|------|---|---|---------------|----------|---------|--|
|      |   |   | EC date       | Specific | General |  |
| 1    | Continuous Emission Monitoring Stations (CEMS) shall be installed within 3 months from the date of issue of EC. | <p>Complied for project in operation.</p> <ul style="list-style-type: none"> <li>Continuous Emission Monitoring Station (CEMS) was established for the stack of the induction furnace.</li> <li>PP submitted that the CEMS will be installed</li> </ul> | 22/01/2018    | i        |         | Shall continue compliance for additional units |

| S No | Non- compliances details   | Observation of IRO Report dated 01/09/2021  | Condition no. |          |         | Response by PP             |
|------|--|---|---------------|----------|---------|----------------------------|
|      |  |   | EC date       | Specific | General |                            |
|      |  | for the stacks of the Power Plant and Sponge Iron Plant after setting up of both the plants.  |               |          |         |                            |
| 2    | A dedicated environmental cell with qualified personnel shall be established within 3 months from the date of issue of EC and shall report the compliance to the Ministry. The head of the environment cell shall report directly to the head of the Organization.         | Complied  | 22/01/2018    | ii       |         | Shall continue compliance. |
| 3    | An Amount of Rs.1307 Lakhs proposed towards Enterprise Social Commitment (ESC) shall be utilized as capital expenditure in project mode. The project shall be completed in concurrence with the implementation of the expansion estimated on the basis of Scheduled Rates. | <b>Compliance is in progress.</b><br>RO reported the following:<br>During the site inspection, it was observed that the Sponge Iron Plant and Power Plant are yet to be established. Only the expansion of billet manufacturing facility has been carried out from 528 TPD to 1000 TPD. The capital cost of the expansion carried out was Rs.27.06 Crores. As per the MoEF&CC OM dated 01.05.2018, the project (being Brownfield) was to spend 1% (Rs. 27 lakhs) of additional capital investment (Rs. 27.06 Crores) on activities under Corporate Environment Responsibility (CER).<br>As per the details submitted, PP spent Rs. 159 lakhs on the CSR activities from 2018-19 to 2020-21. PP submitted that CSR activities will be carried out every year. Additional expenditure based on the capital investment of Sponge Iron Plant and Power Plant will be made once both the plants are established. | 22/01/2018    | iii      |         | Shall continue complying   |
| 4    | The Capital cost Rs.1300 lakhs and annual recurring cost   | As per the information provided, annual budget is being allocated for measures  | 22/01/2018    | v        |         | Shall continue complying   |

| S No | Non- compliances details  | Observation of IRO Report dated 01/09/2021  | Condition no. |          |          | Response by PP                                       |
|------|---|---|---------------|----------|----------|--|
|      |   |   | EC date       | Specific | General  |  |
|      | Rs.504 Lakhs towards the environmental protection measures shall be earmarked separately. The funds so provided shall not be diverted or any other purpose.   | to be taken up for the protection of environment. Additional budget will be allocated once the Sponge Iron Plant and Power Plant are established.   |               |          |          |  |
| 5    | Kitchen waste shall be composted or converted to biogas for further use   | Presently no kitchen is installed in the project. PP submitted that workers bring their food from their home. It was also submitted that Organic Waste Convertor will be provided once the kitchen is established in the project. | 22/01/2018    | vi       |          | Shall comply ,if kitchen will be installed in future |
| 6    | Inform the public through advertisement 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 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, Forests and Climate Change (MoEF& CC) at <a href="http://envfor.nic.in">http://envfor.nic.in</a> | Advertisement has been made, however the clause of seven days was not followed. PP submitted that care will be taken to make the advertisement as per the stipulation in future ECs.  | 22/01/2018    |          | 23 (iii) | Shall comply in future                               |
| 7    | 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   | Complying with.   | 22/01/2018    |          | 23 (vi)  | Shall continue                                       |

| S No | Non- compliances details | Observation of IRO Report dated 01/09/2021 | Condition no. |          |         | Response by PP |
|------|--------------------------|--|---------------|----------|---------|----------------|
|      |                          |  | EC date       | Specific | General |                |
|      | the SPCB                 |  |               |          |         |                |

48.9.19 The project proponent has made again online application vide proposal no IA/MH/IND/205502/2015 dated 25/03/2021. The proposal was considered by the EAC (Industry 1) in its 34<sup>th</sup> meeting of the Re-constituted EAC (Industry-I) held on 15- 16<sup>th</sup> April, 2021. The observations and recommendations of EAC is given as below:

48.9.20 M/s. Om Sairam Steels and Alloys again made an online application vide proposal no. IA/MH/IND/228546/2015 dated 19/09/2021. The proposal was considered by the EAC (Industry 1) in its 45<sup>th</sup> meeting of the Re-constituted EAC (Industry-I) held on 28-29<sup>th</sup> September, 2021. The observations and recommendations of EAC is given as below:

**Observations of the Committee held during 28-29<sup>th</sup> September, 2021**

48.9.21 The Committee observed that additional information is required with respect to the green belt development, water balance, traffic assessment data, ETP details, addressal of issues pertaining to Corporate Environment Policy and action plan as per MoEF&CC O.M. dated 30/09/2020 to address the issues raised during the public consultation.

**Recommendations of the Committee held during 28-29<sup>th</sup> September, 2021**

48.9.22 In view of foregoing and after deliberations, the Committee deferred the consideration of the proposal and sought for following additional information.

- i. PP shall acquire additional land of 1.5127 ha and revised action plan for green belt development shall be submitted with a tree density of 2500 trees per hectare.
- ii. Action plan with physical targets to address the issues raised during public hearing shall be submitted as per the MoEF&CC O.M. dated 30/09/2020.
- iii. Details regarding the proposed STP and ETP shall be provided and the same shall be shown on the plant layout.
- iv. Revised water balance table shall be submitted.
- v. Compliance to the generic ToR no ix pertaining to Corporate Environment Policy shall be addressed.
- vi. Performance monitoring of pollution control devices shall be included in monitoring schedule.
- vii. Clarification regarding reporting of abnormal values of DO, BOD and COD in the water samples shall be furnished.

48.9.23 The proponent submitted the reply to the ADS above on 02/11/2021 as follows:

- i. ***PP shall acquire additional land of 1.5127 ha and revised action plan for green belt development shall be submitted with a tree density of 2500 trees per hectare***

**Reply:** An additional area of 1.5127 ha has been acquired for additional green belt area. This is located at a distance of 3.0 km from the project site, i.e., within the study area. The land will be developed as green belt with native species in consultation with local forest department. A legal affidavit was also submitted, saying that hence forth the area of 1.5127 ha will be part of land-use of the plant for the purpose of greenbelt. The details of land affidavit are submitted along-with undertaking dated 16/09/2021

regarding development of greenbelt over required area has been submitted. The Greenbelt Plan with is prepared with tree density of 2500/ha and revised as per the Revised PH Commitments.

| Year                             | Nos. of Sapling to be planted | Area   | Details of Activity   | Budget in Lakh |
|----------------------------------|-------------------------------|--|---|----------------|
| 6 Months                         | 5600                          | Inside Plant premise & Daregaon Village                              | Plantation of 2000 sapling with tree guard at Daregaon as per demand raised during Public Hearing and Plantation of 3600 sapling inside plant premise | 10.84          |
| 1 <sup>st</sup> Year             | 1000                          | Gap Plantation & Maintenance inside Plant premise & Daregaon Village | Cost Included Gap Plantation of 1000 sapling with tree guard at Daregaon & Plant Premises as per Maintaining the tree density                         | 3.5            |
| 2 <sup>nd</sup> Year             | 500                           | Gap Plantation in Daregaon and Plant Premises                        | Cost includes Gap Plantation of 500 sapling inside plant premise and maintenance of 5200 of plantation at inside and outside premise                  | 2.24           |
| 3 <sup>th</sup> Year             | 500                           | Maintenance  | Cost includes plantation of 1000 sapling inside plant premise and maintenance of 6200 of plantation at inside and outside premise                     | 2.24           |
| 4 <sup>th</sup> Year             | 500                           | Inside Plant premise   | Cost includes plantation of 1000 sapling inside plant premise and maintenance of 7200 of plantation at inside and outside premise                     | 2.24           |
| 5 <sup>th</sup> Year             | 500                           | Inside Plant premise   | Cost includes plantation of 1000 sapling inside plant premise and maintenance of 7200 of plantation at inside and outside premise                     | 2.24           |
| 6 <sup>th</sup> Year             | .....                         |  | Maintenance of 8230 of planted trees at Inside Plant premise and Outside plant premise only watering during non-rainy season.                         | 1.2            |
| 7 <sup>th</sup> Year             | .....                         |  |   | 1.2            |
| 8 <sup>th</sup> Year             | .....                         |  |   | 1.2            |
| 9 <sup>th</sup> Year             | .....                         |  |   | 1.2            |
| 10 <sup>th</sup> Year            | .....                         |  |   | 1.2            |
| <b>Total Budget for 10 Years</b> |                               |  |   | <b>29.3</b>    |

- ii. *Action plan with physical targets to address the issues raised during public hearing shall be submitted as per the MoEF&CC O.M. dated 30/09/2020*

**Reply:** Submitted the table mentioned at para no. 48.9.13

- iii. **Details regarding the proposed STP and ETP shall be provided and the same shall be shown on the plant layout.**

**Reply:**

**STP:**

There is provision of construction of a STP of capacity 40 KLD. Construction of STP will be completed by December 2022. The STP proposed will be a modular biological sewage treatment process.

Presently there are two numbers of Septic Tank followed by Soak Pit constructed as per BIS standard at different location of the project site. It will be located at eastern part of Project Site near security shed. Location of STP is shown in Plant Layout.

The treated effluent Quality shall be as per the norms of discharge to land given below:

| Effluent Type             | Parameter/s                 | Standards for the New STP |
|---------------------------|-----------------------------|---------------------------|
| <b>Sewerage Treatment</b> | pH                          | <b>6.5 - 9.0</b>          |
|                           | BOD                         | <b>10 mg/l</b>            |
|                           | COD                         | <b>50 mg/l</b>            |
|                           | TSS                         | <b>20 mg/l</b>            |
|                           | NH <sub>4</sub> -N          | <b>5 mg/l</b>             |
|                           | N-Total                     | <b>10 mg/l</b>            |
|                           | Fecal Coliform (MPN/100 ml) | <b>&lt;100</b>            |

**ETP**

It is proposed for a Effluent Treatment Plant (ETP) unit with a capacity of 100 KLD within the premises of Om Sairam Steel & Alloys.

Mostly it will receive waste water from DM Plant regeneration section, Cooling Tower blow down, Boiler blow down, Cooling Water Recirculation tank of DRI units and Cooling Water Recirculation tank of SMS units. After treatment the treated water will be used for Fire Hydrant, Dust Suppression and Plantation.

The treated Effluent shall abide by the standards prescribed for discharge on land for irrigation.

| Effluent Type              | Parameter/s     | Standards for the New ETP |
|----------------------------|-----------------|---------------------------|
| <b>Industrial Effluent</b> | pH              | <b>5.5-9.0</b>            |
|                            | BOD             | <b>100 mg/l</b>           |
|                            | COD             | <b>50 mg/l</b>            |
|                            | Oil & Grease    | <b>10 mg/l</b>            |
|                            | TSS             | <b>200 mg/l</b>           |
|                            | TDS (Inorganic) | <b>2100 mg/l</b>          |
|                            | Arsenic         | <b>0.2 mg/l</b>           |
|                            | Sulphate        | <b>1000 mg/l</b>          |

- iv. **Revised water balance table shall be submitted.**

**Reply:**

| Sl. No.      | Purpose              | Use (m <sup>3</sup> /day) | Recirculation / Reuse (m <sup>3</sup> /day) | Loss/Make up (m <sup>3</sup> /day) |
|--------------|----------------------|---------------------------|---|------------------------------------|
| 1.           | Domestic             | 27                        | 0   | 27                                 |
| 2.           | Boiler               | 3000                      | 2720  | 210                                |
| 3.           | DRI Plant            | 2000                      | 1800  | 200                                |
| 4.           | Rolling Mill Cooling | 5700                      | 5320  | 380                                |
| 5.           | Green Belt           | 40                        | 25  | 15                                 |
| <b>TOTAL</b> |                      | <b>10,767</b>             | <b>9,865</b>                                | <b>832</b>                         |

Therefore, the fresh water intake will be for **832 KLD**.

- v. **Compliance to the generic ToR no ix pertaining to Corporate Environment Policy shall be addressed.**

**Reply:** Details have been submitted along with the ADS reply.

- vi. **Performance monitoring of pollution control devices shall be included in monitoring schedule.**

**Reply:** Details have been submitted along with the ADS reply.

- vii. **Clarification regarding reporting of abnormal values of DO, BOD and COD in the water samples shall be furnished.**

**Reply:** In order to recheck the quality of Surface Water we have collected fresh surface water sample from all seven locations and analyzed.

5 nos. of points are identified as sampling locations from still water bodies, i.e., local ponds and 2 nos. of points from Kundalika river, i.e., upstream and downstream.

Kundalika river is passing across the Jalna town and Moti pond is also located in Jalna town, i.e., three water samples are drawn from urban area. Kundalika river is passing from East to South West direction amid of Jalna town. Two samples are collected from upstream and downstream.

It is observed that slightly decrease in DO levels in the downstream of Kundalika river indicates contamination of river water while crossing the Jalna town, because of urban sewer or other solid/liquid waste into river. However, no significant change of water quality is observed and so no significant impact on water environment in the river is observed. It is presumed that BOD levels of the downstream will be improved along with the flowing waters after some distance in its course.

A slight deviation of water quality in respect of sulphates and coli form in the Moti talab indicates the usage of water for domestic purpose. However, no water body is observed with eutrophic condition.

The detailed analysis results are compared to classification of usage as per IS:2296, Class A which is suitable for drinking water after treatment and Class B which is

suitable for bathing and other domestic purpose. No water samples show significant heavy metal concentrations, sulphates and chlorides. Hence, no industrial effluents discharge/contamination is indicated. Fluorides are found within the prescribed limits but slightly higher side while comparing with surface water quality.

48.9.24 Based on the ADS reply by the proponent, the proposal was considered by REAC (Industry 1) in its 48<sup>th</sup> meeting held on 11-12<sup>th</sup> November, 2021. The observations and recommendations of EAC is given as below:

48.9.25 During the meeting, project proponent submitted written submission on the following points:

- Project Proponent submitted the revised layout plan and as per the revised plan the parking area has been converted to green belt area at the Northern side of plant to increase the green belt in side plant premises. The greenbelt inside plant premises area is increased by 5500 Sqm and parking is reduced 1000 Sqm. This is other than the land acquired for greenbelt outside the plant site, which at a distance of 3 KM from plant site.
- Revised water balance plan was submitted for reducing the make-up water (from 832 KLD to 763 KLD) and enhancing the re-circulated water (from 9865 KLD to 10017 KLD) by tertiary treatment of ETP and STP water. The revised water balance is given below:

| S. No.       | Purpose              | Use (m <sup>3</sup> /day) | Recirculation / Reuse (m <sup>3</sup> /day) | Loss/ Make up (m <sup>3</sup> /day) |
|--------------|----------------------|---------------------------|---|-------------------------------------|
| 1.           | Domestic             | 40                        | 37  | 3                                   |
| 2.           | Boiler               | 3000                      | 2720  | 280                                 |
| 3.           | DRI Plant            | 2000                      | 1840  | 160                                 |
| 4.           | Rolling Mill Cooling | 5700                      | 5420  | 280                                 |
| 5.           | Green Belt           | 40                        | 0   | 40                                  |
| <b>TOTAL</b> |                      | <b>10,780</b>             | <b>10,017</b>                               | <b>763</b>                          |

#### Observations of the Committee

48.9.26 The Committee noted the following:

- i. Project proponent has purchased additional land of 1.5127 ha, 3 km away from plant to achieve 40 % of green belt development as committed by the proponent voluntarily.
- ii. The Committee noted that the revised EIA/EMP report is in compliance of the ToR issued for the project, reflecting the present environmental concerns and the projected scenario for all the environmental components. The Committee has also found that the baseline data and incremental GLC due to the proposed project within NAAQ standards.
- iii. The Committee also deliberated on the public hearing issues along with action plan submitted by the proponent to address the issues raised during the public hearing and found it satisfactory.
- iv. The EAC found that the response submitted by PP on additional details sought by EAC in earlier meeting was satisfactory.
- v. The EAC noted that the written submissions made by the project proponent during the course of meeting are satisfactory.

48.9.27

### **Recommendations of the Committee**

In view of the foregoing and after detailed deliberations, the committee recommended the instant proposal for grant of Environment Clearance under the provisions of EIA Notification, 2006 subject to the stipulation of specific conditions and general conditions as per the Ministry's Office Memorandum No. 22-34/2018-III dated 9/8/2018 based on project specific requirements.

#### **A. Specific conditions**

- i. 763 KLD water shall be sourced from Maharashtra Industrial Development Corporation (MIDC) supply. No ground water abstraction is permitted.
- ii. Green belt shall be developed in 40% of the total area all along the entire periphery of the area with a density of 2500 trees per ha. as committed by the PP. This shall include development of green belt in 1.5127 ha additional land allocated by MIDC inside the Industrial Area.
- iii. Particulate matter emission from all the stacks shall not exceed 30 mg/Nm<sup>3</sup>.
- iv. Rain Water harvesting shall be implemented as per the action plan submitted in the EIA report.
  - v. 100 % solid waste generated in the facility shall be utilized. Maximum 90 days storage capacity shall be allowed inside the plant complex for solid wastes.
- vi. All stockyards shall be having impervious flooring and shall be equipped with water spray system for dust suppression. Stock yards shall also have garland drains to trap the run off material.
- vii. Slip roads shall be provided at the gates and along crossings on main roads.
- viii. Performance monitoring of all Pollution Control Devices shall be carried out annually and report submitted to MoEF&CC, Regional Office.

#### **B. General conditions**

##### **I. Statutory compliance:**

- i. The Environment Clearance (EC) granted to the project/ activity is strictly under the provisions of the EIA Notification, 2006 and its amendments issued from time to time. It does not tantamount/ construe to approvals/ consent/ permissions etc., required to be obtained or standards/conditions to be followed under any other Acts/Rules/Subordinate legislations, etc., as may be applicable to the project.

##### **II. Air quality monitoring and preservation**

- i. The project proponent shall install 24x7 continuous emission monitoring system at process stacks to monitor stack emission as well as three Continuous Ambient Air Quality Station (CAAQS) for monitoring AAQ parameters with respect to standards prescribed in Environment (Protection) Rules 1986 as amended from time to time. The CEMS and CAAQMS shall be connected to SPCB and CPCB online servers and calibrate these systems from time to time according to equipment supplier specification through labs recognized under Environment (Protection) Act, 1986 or NABL accredited laboratories.
- ii. The project proponent shall monitor fugitive emissions in the plant premises at least once in every quarter through laboratories recognized under Environment (Protection) Act, 1986 or NABL accredited laboratories.

- iii. Appropriate Air Pollution Control (APC) system shall be provided for all the dust generating points including fugitive dust from all vulnerable sources, so as to comply prescribed stack emission and fugitive emission standards.
- iv. The project proponent shall provide leakage detection and mechanized bag cleaning facilities for better maintenance of bags.
- v. Recycle and reuse iron ore fines, coal and coke fines, lime fines and such other fines collected in the pollution control devices and vacuum cleaning devices in the process after briquetting/ agglomeration.
- vi. The project proponent shall ensure covered transportation and conveying of ore, coal and other raw material to prevent spillage and dust generation.
- vii. Wind shelter fence and chemical spraying shall be provided on the raw material stock piles.
- viii. Design the ventilation system for adequate air changes as per prevailing norms for all tunnels, motor houses, Oil Cellars.

### **III. Water quality monitoring and preservation**

- i. The project proponent shall install 24x7 continuous effluent monitoring system with respect to standards prescribed in Environment (Protection) Rules 1986 (G.S.R 414 (E) dated 30th May 2008; G.S.R 277 (E) dated 31<sup>st</sup> March 2012 (applicable to IF/EAF); S.O. 3305 (E) dated 7th December 2015 (Thermal Power Plants) as amended from time to time and connected to SPCB and CPCB online servers and calibrate these system from time to time according to equipment supplier specification through labs recognized under Environment (Protection) Act, 1986 or NABL accredited laboratories.
- ii. The project proponent shall monitor regularly ground water quality at least twice a year (pre- and post-monsoon) at sufficient numbers of piezometers/sampling wells in the plant and adjacent areas through labs recognized under Environment (Protection) Act, 1986 and NABL accredited laboratories.
- iii. Sewage Treatment Plant shall be provided for treatment of domestic wastewater to meet the prescribed standards.
- iv. Garland drains and collection pits shall be provided for each stock pile to arrest the run-off in the event of heavy rains and to check the water pollution due to surface run off.

### **IV. Noise monitoring and prevention**

- i. Noise quality shall be monitored as per the prescribed Noise Pollution (Regulation and Control) Rules, 2000 and report in this regard shall be submitted to Regional Officer of the Ministry as a part of six-monthly compliance report.

### **V. Energy Conservation measures**

- i. Energy conservation measures may be adopted such as adoption of solar energy and provision of LED lights etc., to minimize the energy consumption.

### **VI. Waste management**

- i. Oily scum and metallic sludge recovered from rolling mills ETP shall be mixed, dried, and briquetted and reused in melting Furnaces.
- ii. Kitchen waste shall be composted or converted to biogas for further use.

**VII. Green Belt**

- i. The project proponent shall prepare GHG emissions inventory for the plant and shall submit the Programme for reduction of the same including carbon sequestration including plantation.

**VIII. Public hearing and Human health issues**

- i. Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented.
- ii. The project proponent shall carry out heat stress analysis for the workmen who work in high temperature work zone and provide Personal Protection Equipment (PPE) as per the norms.
- iii. Occupational health surveillance of the workers shall be done on a regular basis and records maintained.

**IX. Environment Management**

- i. The project proponent shall comply with the provisions contained in this Ministry's OM vide F.No. 22-65/2017-IA.III dated 30/09/2020.
- ii. The company shall have a well laid down environmental policy duly approved by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental / forest / wildlife norms / conditions. The company shall have defined system of reporting infringements / deviation / violation of the environmental / forest / wildlife norms / conditions and / or shareholders / stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report.
- iii. A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly report to the head of the organization.

**X. Miscellaneous**

- i. The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.
- ii. The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.
- iii. The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.
- iv. The project proponent shall monitor the criteria pollutants level namely; PM<sub>10</sub>, SO<sub>2</sub>, NO<sub>x</sub> (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the projects and display the same at a convenient location for disclosure to the public and put on the website of the company.
- v. The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the

- ministry of Environment, Forest and Climate Change at environment clearance portal.
- vi. The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.
  - vii. The project proponent 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, commencing the land development work and start of production operation by the project.
  - viii. The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.
  - ix. No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC).
  - x. Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.
  - xi. The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.
  - xii. The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.
  - xiii. The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.
  - xiv. Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

48.10 Change in Product Mix under Para 7(ii) of EIA notification 2006 for production of Stainless Steel Products (Billets, Flats ,rounds, Wire rod, Rebars, Angle and Channel) by removing facility of one 12 ton induction furnace and addition of Two Argon Oxygen Decarburization vessel (AOD) of 25 Tons each (One is standby) and with existing facilities of one induction furnace of 12 ton, 1 Ladle Furnace of capacity 15 Tonne, 4/7 radius Continuous Casting Machine & 22 TPH Reheating Furnace and Rolling Mill of 1,38,000 TPA for production of M.S Billets, TMT Bar, light, medium section rolled product by **M/s. D. S. Rolling Mills Pvt. Ltd.** located at Khasra No. 175, 181, 187-191, 195-197 Village Dayalpur, Khanpur Block, Tehsil Lakshar, **District Haridwar, Uttarakhand** [Online Proposal No. IA/UK/IND/236014/2021, File No. IA-J-11011/349/2013-IA-II(I)] – **Environment Clearance under the provision of para 7 (ii) of EIA Notification, 2006 – regarding**

48.10.1 M/s. D. S. Rolling Mills Pvt. Ltd. has made an online application vide proposal no. IA/UK/IND/236014/2021 dated 27/10/2021 along with copy of Environmental Appraisal report, Form – 2 and certified EC compliance report seeking Environment Clearance (EC) under the provisions of para 7(ii) of EIA Notification, 2006 for the project mentioned

above. The proposed project activity is listed at schedule no. 3(a) Metallurgical Industries (ferrous & non-ferrous) Under Category “B” of the schedule of the EIA Notification, 2006 and attracts general condition due to interstate boundary and appraised at Central Level.

**Details submitted by the project proponent**

48.10.2 The project of M/s D. S. Rolling Mills Pvt. Ltd located in Village-Dayalpur, Block-Khanpur, Tehsil-Lakshar, District-Haridwar, State-Uttarakhand is for change in Product Mix under Para 7(ii) of EIA notification 2006 for production of Stainless Steel Products (Billets, Flats ,rounds, Wire rod, Rebars, Angle and Channel) by removing facility of one 12 ton induction furnace and addition of Two Argon Oxygen Decarburization vessel (AOD) of 25 Tons each (One is standby) and with existing facilities of one induction furnace of 12 ton, 1 Ladle Furnace of capacity 15 Tonne, 4/7 radius Continuous Casting Machine & 22 TPH Reheating Furnace and Rolling Mill of 1,38,000 TPA for production of M.S Billets, TMT Bar, light, medium section rolled product.

48.10.3 Environmental site settings

| S. No | Particular   | Details   | Remarks          |
|-------|--|---|------------------|
| 1     | Total land   | 2.592 ha (Private Land-2.592 Ha)  | Industrial Land  |
| 2     | Land acquisition details as per MoEF&CC O.M. dated 7/10/2014   | Total land is under the possession of company   |                  |
| 3     | Existence of habitation & involvement of R&R, if any.  | Not applicable  |                  |
| 4     | Latitude and Longitude of the project site   | <b>Latitude</b>   | <b>Longitude</b> |
|       |  | 29°38'12.04"N   | 77°59'48.08"E    |
|       |  | 29°38'17.36"N   | 77°59'53.10"E    |
|       |  | 29°38'15.18"N   | 77°59'56.07"E    |
|       |  | 29°38'10.53"N   | 77°59'51.40"E    |
| 5     | Elevation of the project site  | 230 m AMSL  |                  |
| 6     | Involvement of Forest land if any.   | No forest land involved   |                  |
| 7     | Water body exists within the project site as well as study area  | <b>Project site:</b><br>Nil<br><br><b>Study area:</b><br>Ganga River at approx. 6.0 km, ESE |                  |
| 8     | Existence of ESZ/ ESA/ national park/ wildlife sanctuary/ biosphere reserve/ tiger reserve/ elephant reserve etc. if any within the study area | Nil   |                  |

48.10.4 The existing project was accorded environmental clearance vide File No. J-11011/349/2013-IA.II.(I) dated 22/06/2015. Consent to Operate for the existing unit was

accorded by Uttarakhand State Pollution Control Board vide Letter No-UKPCB/HO/Con-D-73/2021/885 dated 30/09/2021. The validity of CTO is up to 31/03/2024.

48.10.5 Implementation status of the existing EC:

| S. No | Facilities                   | Units    | As per EC dated 22/06/2015 | Implementation Status as on | Production as per CTO |
|-------|------------------------------|----------|----------------------------|-----------------------------|-----------------------|
| 1     | Induction Furnace (2x12 Ton) | SMS unit | 2 x 12 Ton                 | Installed                   | 3,480 TPM             |
| 2     | 1 no. of Ladle Furnace       | --       | 15 Ton                     | Installed                   | --                    |
| 3     | CCM (4/7 Radius)             | --       | 2 Strands                  | Installed                   | --                    |
| 4     | Reheating Furnace            | --       | 22 TPH                     | Installed                   | --                    |
| 5     | Rolling Mill                 | --       | 1,38,000 TPA               | Installed                   | 6666.33 TPM           |

48.10.6 The unit configuration and capacity of existing and proposed unit are given as below:

| Description                             | Existing Capacity   | Proposed Configuration   | Final capacity/ Configuration  |
|---|---|--|--|
| <b>Unit</b>                             |   |  |  |
| Induction Furnace                       | 2 x 12 Ton  | Removing one induction furnace   | 1 x 12 Ton Induction furnace   |
| 1 no. of Ladle Furnace                  | 15 Ton  | No Change  | 15 Ton   |
| Continuous Casting Machine (4/7 radius) | 2 Strand  |  | 2 Strand   |
| Reheating Furnace                       | 22 TPH  |  | 22 TPH   |
| Rolling Mill                            | 1,38,000 TPA  |  | 1,38,000 TPA   |
| Product                                 | MS Billets, TMT Bar, light, medium section rolled product | Addition of SS Billets, S.S Steel grade alloy Flats ,rounds, Wire rod, S.S Rebars, Angle and Channel | MS Billets, TMT Bar, light, medium section rolled product, S.S Billets, S.S Steel grade alloy Flats, rounds, Wire rod, S.S Rebars, Angle and Channel |
| Argon Oxygen Decarburization vessel     | Nil   | Installation of 02 No. of AOD Vessel   | 2 x 25 Tons (One standby)  |

48.10.7 The details of the raw material requirement for the proposed project along with its source and mode of transportation is given as below:

**Raw Material for Billets with one I.F (12 Ton)**

| Sl. No       | Name                 | Quantity (TPA) | Source   | Transportation              | Distance w.r.t Plant    |
|--------------|----------------------|----------------|--|-----------------------------|-------------------------|
| 1            | Sponge Iron/MS Scrap | 39,996         | M/s Sri Venkatesh Iron & Alloys (India) Ltd, Ramgarh, Jharkhand            | Road through covered trucks | Between 1000 – 1500 KMs |
| 2            | Pig Iron             | 5,999.5        | M/s Anam Steels Pvt Ltd, New Delhi and M/s Balaji Scrap Traders, New Delhi | Road through covered trucks | Between 100 – 150 KMs   |
| 3            | Ferro alloys         | 2,000          | Local Purchase   | Road through covered trucks | Between 40 – 50 KMs     |
| <b>Total</b> |                      | <b>47,995</b>  |  |                             |                         |

**Raw Material for AOD (Per Heat)**

| SL. No               | Name                | Quantity (Ton) | Source      | Transportation         | Distance w.r.t Plant |
|----------------------|---------------------|----------------|-------------|------------------------|----------------------|
| <b>Raw Materials</b> |                     |                |             |                        |                      |
| 1                    | Hot Metal from IF   | 14             | --          | In-house               | --                   |
| 2                    | H.C Ferro Chrome    | 1              | Open Market | Through Covered Trucks | 50-100 km            |
| 3                    | H.C Ferro Manganese | 3.750          | Open Market | Through Covered Trucks | 50-100 km            |
| 4                    | Ferro Silicon       | 1.125          | Open Market | Through Covered Trucks | 50-100 km            |
| 5                    | Ferro Nickel        | 4.50           | Open Market | Through Covered Trucks | 50-100 km            |
| 6                    | Scrap Coolant       | 7              | Open Market | Through Covered Trucks | 20-50 km             |
| <b>Flux</b>          |                     |                |             |                        |                      |
| 1                    | Lime                | 1.250          | Open Market | Through Covered Trucks | 20-50 km             |
| 2                    | Dolomite            | 1.250          | Open Market | Through Covered Trucks | 20-50 km             |
| <b>Total</b>         |                     | <b>29.825</b>  |             |                        |                      |

**Raw Material for Rolling Mill (1,38,000 TPA)**

| Raw Material requirement | Quantity of Raw Material | Source             | Transportation                     | Distance w.r.t Plant |
|--------------------------|--------------------------|--------------------|------------------------------------|----------------------|
| Hot Billets (MS and      | 1,46,000 TPA             | In-house and Local | Internal Movement and Road through | Between 20 – 40 KMs  |

| Raw Material requirement    | Quantity of Raw Material | Source      | Transportation | Distance w.r.t Plant  |
|-----------------------------|--------------------------|-------------|----------------|-----------------------|
| S.S)/Ingots                 |                          | Market      | covered trucks |                       |
| Fuel for Re-heating Furnace | 12 KL/Annum              | Open Market | Oil Tankers    | Between 100 – 150 KMs |

48.10.8 The water requirement for the project is estimated as 98 m<sup>3</sup>/day which will be obtained from the Ground Water. The permission for drawl of groundwater is obtained from CGWA vide:- CGWA/NOC /IND/ORIG/ 2021/13168, dated: 29/09/2021.

48.10.9 Existing power requirement is 10,000 kVA and permission has already been obtained from Uttarakhand Power Corp. Ltd. No additional power will be required for the proposed change in unit configuration & Product mix project.

48.10.10 Baseline Environmental Studies

| Period                                 | (From post project monitoring)   |
|--|--|
| AAQ parameters at one locations        | PM <sub>2.5</sub> = 39.8 to 53.1 µg/m <sup>3</sup><br>PM <sub>10</sub> = 69.6 to 93 µg/m <sup>3</sup><br>SO <sub>2</sub> = 8.4 to 12.7 µg/m <sup>3</sup><br>NO <sub>2</sub> = 13 to 29.7 µg/m <sup>3</sup><br>CO = 1050 to 1300 µg /m <sup>3</sup> |
| AAQ modelling (Incremental GLC)        | PM <sub>10</sub> = 0.99 µg/m <sup>3</sup><br>SO <sub>2</sub> = 3.54 µg/m <sup>3</sup>  |
| Ground water quality at one locations  | pH: 7.85, Total Hardness: 326 mg/l, Chlorides: 93 mg/l, Fluoride: 0.1 mg/l. Heavy metals are within the limits.  |
| Surface water quality at one locations | pH: 7.32 ; DO: 7.4 mg/l and BOD: 2.2 mg/l. COD: 11 mg/l  |
| Noise levels                           | 72.9 dB (A) for the day time and 59.8 dB(A) for the Night time.  |
| Flora and fauna                        | Flora: There are no critically endangered plant species observed or reported in the study area.<br><br>Fauna: There are no Schedule-I species presented in study area.   |

48.10.11 The details of solid and hazardous waste generation along with its mode of treatment/disposal is furnished as below:

**Industrial Waste Management after proposed project (In TPA)**

| S. No | Name/ Source  | Existing Quantity | After Proposed facilities | Final Configuration | Utilization   |
|-------|---------------|-------------------|---------------------------|---------------------|---|
| 1.    | SMS slag      | 7,500             | -3,750                    | 3,750               | Slag from SMS is being crushed and metal is being recovered and same will be followed |
| 2.    | Slag from AOD | Nil               | 6,600                     | 6,600               |   |

| S. No | Name/ Source                  | Existing Quantity | After Proposed facilities | Final Configuration | Utilization   |
|-------|-------------------------------|-------------------|---------------------------|---------------------|---|
|       |                               |                   |                           |                     | for AOD slag & remaining non-magnetic material is being inert nature and used as sub base material in road construction/ used for brick manufacturing/ civil construction works like PCC and wall construction. |
| 3.    | Mill scales from Rolling Mill | 1800              | Nil                       | 1800                | Sold to contractor of sinter making   |
| 4.    | End Cutting                   | 6,200             | Nil                       | 6,200               | Being recycled to SMS unit  |
| 5.    | Used Oil                      | 1KL/ Annum        | Nil                       | 1 KL/ Annum         | Sent to SPCB approved agency for disposal   |

**The waste generation/reused disposed as follows:**

- The lead acid battery or dry battery are being given to authorized recycler having authorization from competent authority.
- E-waste generated from the plant is given to authorized recycler having authorization from competent authority.
- The domestic sewage outflow from toilets is provided with Sewage Treatment Plant; the treated water is being used for toilet flushing, irrigation and dust suppression.

48.10.12 Public Consultation:

|                                |  |
|--------------------------------|--|
| Details of advertisement given | 20/07/2014                             |
| Date of public consultation    | 20/08/2014                             |
| Venue                          | Project Site                           |
| Presiding Officer              | • ADM, Haridwar, Uttarakhand           |
| Major issues raised            | • Employment to Local peoples<br>• CSR |

- 48.10.13 The capital cost of the project after the proposed change of Product mix project is Rs 34.5 Cr (Existing: Rs. 32 Crores and Proposed facilities: Rs. 2.5 Crores) and the capital cost for environmental protection measures after proposed change of product is proposed as Rs 1.86 Cr. The annual recurring cost towards the environmental protection measures is proposed as Rs 0.305 Cr. The employment generation from the project after current proposal is 80 nos. The details of cost for environmental protection measures is as follows:

**Investment on Environmental Protection Measures (Rs. in Lakhs)**

| S. No        | Activity   | Existing            |   | Proposed            |  |
|--------------|--|---------------------|---|---------------------|--|
|              |  | Capital Cost (Lakh) | Recurring expenses proposed / annum (Lakh ) | Capital Cost (Lakh) | Recurring expenses proposed/ annum (Lakh ) |
| 1            | Air Pollution Control Devices.   | 99                  | 2.5   | 25                  | 04   |
| 2            | Green Belt development   | 5                   | 2.5   | 5                   | 1.5  |
| 3            | Water pollution control  | 21                  | 03  | 2                   | 1  |
| 4            | Solid waste management   | 14                  | 03  | 5                   | 2  |
| 5            | Occupational Health & Safety (provision of first aid room and shelter) | 5                   | 2   | 5                   | 2  |
| 6            | Environmental Monitoring   | --                  | 4.5   | --                  | 2.5  |
| <b>Total</b> |  | <b>144</b>          | <b>17.5</b>                                 | <b>42</b>           | <b>13</b>                                  |

48.10.14 Total Greenbelt area provided is 0.855 ha, which is about 33% of the total project area. 1300 no's of trees have been planted at project site and remaining 837 trees will be planted during 2021-2022. Local and native species will be planted with a density of 2,500 trees per hectare.

48.10.15 It has been reported that following will be resource consumption after the proposed change:

| Particulars   | As per EC dated 22/06/2015  | After proposed change Under Para 7(ii)   | % increase |
|---------------|---|--|------------|
| Land          | 2.592 Ha  | 2.592 Ha   | 0%         |
| Greenbelt     | 0.855 Ha  | 0.855 Ha   | 0%         |
| Water         | 98 m <sup>3</sup>   | 98 m <sup>3</sup>  | 0%         |
| Power         | 10,000 KVA  | 10,000 KVA   | 0%         |
| Raw materials | Sponge Iron, Pig Iron/Scrab, Ferro alloys/Silico Manganese, Hot Billets / Billets / Ingots, Fuel for Re-heating Furnace | Steel Scrap, Sponge Iron, Pig Iron/Scrab, Ferro alloys/Silico Manganese, Hot Billets / Billets / Ingots, Fuel for Re-heating Furnace                 | --         |
| Products      | MS Billets, TMT Bar, light, medium section rolled product   | MS Billets, TMT Bar, light, medium section rolled product, S.S Billets, S.S Steel grade alloy Flats, rounds, Wire rod, S.S Rebars, Angle and Channel | --         |

48.10.16 Pollution load assessment:

| Particulars               | As per EC dated 22/06/2015  | After proposed change under para 7(ii)  | % increase  |
|---------------------------|---|---|---|
| Air                       | PM <sub>10</sub> = 0.78 µg/m <sup>3</sup><br>SO <sub>2</sub> = 3.54 µg/m <sup>3</sup> | PM <sub>10</sub> = 0.99 µg/m <sup>3</sup><br>SO <sub>2</sub> = 3.54 µg/m <sup>3</sup> | PM <sub>10</sub> = 26.92%<br>SO <sub>2</sub> = 0% |
| Water                     | 98 m <sup>3</sup>   | 98 m <sup>3</sup>   | 0%  |
| Solid and Hazardous waste | SMS Slag, Mill scales & end cutting from Rolling Mill.                                | SMS Slag, AOD Slag, Mill scales & end cutting from Rolling Mill.                      | AOD Slag will be additional.                      |
| Traffic Load              | 13 Trucks/day   | 13 Trucks/day   | 0%  |

48.10.17 The proponent has mentioned that there is no court case or violation under EIA Notification to the project or related activity.

48.10.18 Name of the EIA consultant: M/s Grass Roots Research and Creation India (P) Ltd. [S.No. 166, List of ACOs with their Certificate / Extension Letter no. Rev. 15, October 11, 2021].

**Certified compliance report from Regional Office:**

48.10.19 The status of compliance of earlier EC was obtained from Integrated Regional Office, MoEF&CC, Dehradun vide file No:-NC/RO/ENV/IND/UK/50/2015 /703, dated:- 10/09/2021 in the name of M/s D.S Rolling Mills Pvt Ltd. The Action taken report regarding the partially complied condition was submitted to Integrated Regional office, MoEF&CC, Dehradun dated 22/09/2021. The observations made by the RO in the report dated 10/09/2021 are as follows:

| Condition No.          | Condition  | Observation of RO as per report dated 10/09/2021   |
|------------------------|--|--|
| Specific Condition I   | The project proponent should install 24x7 monitoring devices to monitor air emission, as provided by CBCB and submit report to Ministry and its regional Office.   | It was informed that installation of online stack monitoring system for IF, LF, RF is under process. The order voucher for the same has been shown. As soon the installation will be done the monitoring report should be submitted to Ministry and its Regional office. |
| Specific Condition VII | Green Belt over 33% of the total project area should be developed within plant premises with at least 10-meter-wide green belt on all sides along the periphery of the project area, in downward direction, and along road sides etc. Selection of plant species shall be as per the CPCB guidelines in consultation with the DFO. | It was informed that 33% of the total plot area has been covered under green belt of the total plant area. However, it appears that the green-belt is less than 10m wide and the project proponent should explore more areas along the periphery for wider plantation.   |

48.10.20 The proposal has been considered by REAC (Industry 1) in its 48<sup>th</sup> meeting held on 11-12<sup>th</sup> November, 2021. The observations and recommendations of EAC is given as below:

### **Observations of the Committee**

- 48.10.21 The EAC noted the following:
- i. Proposal is for obtaining Environmental Clearance for addition of AOD of 25T capacity for production of SS billets/SS steel grade alloys in existing facilities of 2x12T IF for MS production, under the provisions of para 7(ii) of EIA Notification 2006.
  - ii. Product mix will be changed to add the SS products. Ferro chrome, ferro Nickel will be included as raw materials so the emissions will be hazardous. No details were submitted about emissions, discharges and waste generation from SS manufacturing facilities.

### **Recommendations of the Committee**

- 48.10.22 In view of the foregoing and after deliberations, the Committee recommended to return the proposal in its present form. The Proposed project does not qualify to be appraised under the provisions of para 7(ii) of EIA Notification 2006.

48.11 Greenfield project for a DRI based Steel plant to produce Beneficiated Iron Ore throughput 1,200,000 TPA; Iron Ore Pellets 1,800,000 TPA; Sponge Iron 198,000 TPA; Mild Steel Billets 194,040 TPA; Rerolled Steel Products through Hot Charging and through Reheating Furnace 231,000 TPA; Ferro Alloys 20,000 TPA and/ or Pig iron 40,000 TPA from 2.5 MVA x 4Nos SAF; Captive Power of 32MW (16MW through WHRB and 16MW through CFBC); Cement (PPC, PSC or OPC) 100,000 TPA and Fly Ash Bricks 138,600TPA by **M/s. G.R. Integrated Steel Private Limited** located at Village Mudpar, Tehsil Berla, **District Bemetara, Chhattisgarh**. [Online Proposal No. IA/CG/IND/236777/2021; File No.: IA-J- 11011/455/2021-IA-II(IND-I)] – **Prescribing of Terms of Reference – regarding.**

48.11.1 M/s. G.R. Integrated Steel Private Limited has made an online application vide proposal no. IA/CG/IND/236777/2021 dated 01/11/2021 along with the application in prescribed format (Form-I), copy of pre-feasibility report and proposed ToR for undertaking detailed EIA study as per the EIA Notification, 2006 for the project mentioned above. The proposed project activity is listed at S. No. 3(a) Metallurgical Industries, 1(d) Thermal Power Plant, 2(b) Mineral Beneficiation and 3(b) Cement plants under Category "A" of the schedule of the EIA Notification, 2006 and appraised at central level.

### **Details submitted by Project proponent**

48.11.2 The project of M/s. G.R. Integrated Steel Private Limited located in Village Mudpar , Tehsil Berla, District Bemetara, Chhattisgarh is proposed for a DRI based Steel plant to produce Beneficiated Iron Ore throughput 1,200,000 TPA; Iron Ore Pellets 1,800,000 TPA; Sponge Iron 198,000 TPA; Mild Steel Billets 194,040 TPA; Rerolled Steel Products through Hot Charging and through Reheating Furnace 231,000 TPA; Ferro Alloys 20,000 TPA and/ or Pig iron 40,000 TPA from 2.5 MVA x 4Nos SAF; Captive Power of 32MW (16MW through WHRB and 16MW through CFBC); Cement (PPC, PSC or OPC) 100,000 TPA and Fly Ash Bricks 138,600TPA.

48.11.3 Environmental site settings:

| S. No. | Particulars   | Details  |  |                      | Remarks  |                  |
|--------|---|--|--|----------------------|--|------------------|
| i.     | Total land  | 45.95 ha.<br>[12.87Ha Govt. Land Private: 32.98 Ha.] |  |                      | The company has received the in-principle letter from Chattisgarh Govt. for allotment of the Govt. land. The Company has entered into agreement with the private land owners for procurement. Company will complete the registration process in due course after seeking Stamp duty exemption from Govt. |                  |
| ii.    | Existence of habitation & involvement of R&R, if any.           | No R&R is involved.                                  |  |                      | -  |                  |
| iii.   | Latitude and Longitude of the project site.                     | <b>Point</b>   | <b>Latitude</b>                              | <b>Longitude</b>     | -  |                  |
|        |   | BP1  | 21°26'32.31"N                                | 81°27'5.61"E         |  |                  |
|        |   | BP2  | 21°26'9.36"N                                 | 81°27'11.38"E        |  |                  |
|        |   | BP3  | 21°26'2.39"N                                 | 81°27'16.40"E        |  |                  |
|        |   | BP4  | 21°25'51.67"N                                | 81°27'12.56"E        |  |                  |
|        |   | BP5  | 21°25'54.04"N                                | 81°27'0.96"E         |  |                  |
|        |   | BP6  | 21°26'5.14"N                                 | 81°27'3.65"E         |  |                  |
| BP7    | 21°25'47.31"N   | 81°27'11.15"E  |  |                      |  |                  |
| iv.    | Elevation of the project site                                   | Min 286 m. – Max 301m                                |  |                      | -  |                  |
| v.     | Involvement of Forest land if any.                              | No Forest Land is involved.                          |  |                      | -  |                  |
| vi.    | Water body exists within the project site as well as study area | <b><u>Project site:</u></b> Nil                      |  |                      | -  |                  |
|        |   | <b><u>Study area</u></b>                             |  |                      |  |                  |
|        |   | <b>S. No.</b>  | <b>Name of the Water Body</b>                | <b>Distance (KM)</b> |  | <b>Direction</b> |
|        |   | 1  | Dry Water Pond (21°26'32.20"N 81°27'21.40"E) | Adjoining            |  | NE               |
|        |   | 2  | Dry Water Pond (21°26'44.31"N 81°26'19.37"E) | 1.38                 |  | NW               |
| 3      | Dry Water Pond (21°27'39.10"N                                   | 2.06   | N  |                      |  |                  |

| S. No. | Particulars   | Details |  |      | Remarks |
|--------|---|---------|--|------|---------|
|        |   |         | 81°27'13.10"E)                                     |      |         |
|        |   | 4       | Dry Water Pond<br>(21°27'21.97"N<br>81°27'58.02"E) | 2.14 | NE      |
|        |   | 5       | Ahiwara Talab                                      | 8.2  | SSW     |
|        |   | 6       | Berla Lake   | 8.7  | NNE     |
|        |   | 7       | Shivnath River                                     | 7.1  | W       |
|        |   | 8       | Sheetla Talab                                      | 9.0  | SSW     |
|        |   | 9       | Nava Lake  | 9.6  | NNE     |
|        |   | 10      | Shitala Lake                                       | 10.1 | NNE     |
| vii.   | Existence of ESZ/<br>ESA/ national park/<br>wildlife sanctuary/<br>biosphere reserve/<br>tiger reserve/<br>elephant reserve<br>etc. if any within<br>the study area | Nil     |  |      | -       |

48.11.4 The unit configuration and capacity of proposed project is given as below:

| S. No. | Process plant                             | Proposed configuration of the plant                         | Product Name  | Capacity (in TPA) |
|--------|---|---|---|-------------------|
| 1      | Iron ore Beneficiation throughput         | 1.2 MTPA x 1 No.  | Beneficiated Iron ore   | 1,200,000         |
| 2      | Pellet plant                              | 0.9 MTPA x 2 Nos.   | Pellets   | 1,800,000         |
| 3      | DRI Kiln (Coal Fired)                     | 300TPD X 2 No.  | Sponge Iron   | 198,000           |
| 4      | Induction Furnace along with CCM and LRF  | Induction Furnace (15Tons X 4 Nos) and LRF (15ton x 1 No)   | MS Billet   | 194,040           |
| 5      | Hot Rolling Mill                          |   |   | 224,070           |
|        | a. Hot Charging Rolling Mill              | Electrical driven Rolling Mill about 514TPD                 | Rerolled Steel product (Wire Rod, TMT bar, Structure Steels etc.) | 169,785           |
|        | b. Billet Reheating Furnace               | Reheating Furnace based Rolling Mill about 164TPD           | Rerolled Steel products (Structural Steels etc.)                  | 54,285            |
| 6      | Sub-Merged Arc Furnace                    | Electrically operated Sub-Merged Arc Furnace 2.5MVA x 4 nos | Ferro Alloys (FeSi, FeMn, SiMn)                                   | 20,000            |
|        |   |   | And/or  |                   |
|        |   |   | Pig Iron  | 40,000            |
| 7      | Captive Power Plant (Boiler and TG based) | Waste Heat Recovery Boilers (WHRB)                          | Captive Power   | 16 MW             |
|        |   | Circulating fluidized bed combustion                        |   | 16 MW             |

| S. No. | Process plant                     | Proposed configuration of the plant | Product Name           | Capacity (in TPA) |
|--------|-----------------------------------|-------------------------------------|------------------------|-------------------|
|        |                                   | (CFBC)                              |                        |                   |
| 8      | Cement Grinding Unit              | 300 Tones per day                   | PPC, PSC or OPC        | 100,000           |
| 9      | Fly Ash Bricks/ Block making unit | 120,000 nos. per day                | Fly Ash Bricks/ Blocks | 138,600           |

48.11.5 The details of the raw material requirement for the proposed project along with its source and mode of transportation is given as below:

**For I/O Beneficiation Plant**

| S. No. | Raw Material       | Qty (in TPA)   | Source                         | Distance       | Mode of Transportation   |
|--------|--------------------|----------------|--------------------------------|----------------|--|
| 1      | Low grade Iron Ore | 1200000        | Odisha Iron Ore Mines and NMDC | 500 Kilometers | By Rail to nearest sidings and then by Road through covered vehicles |
|        | <b>Total</b>       | <b>1200000</b> |                                |                |  |

**For Pellet Plant<sup>#</sup>**

| S. No. | Raw Material                     | Qty (in TPA)     | Source  | Distance                  | Mode of Transportation   |
|--------|----------------------------------|------------------|---|---------------------------|--|
| 1      | Beneficiated Iron Ore / Iron Ore | 1,854,000        | Captive production/ Odisha Iron Ore Mine and NMDC | Internal / 500 Kilometers | Through Internal Roads/ By Rail to nearest sidings and then by Road through covered vehicles |
| 2      | Bentonite                        | 14,400           | Open Market                                       | 500 KMs                   | By Road through covered vehicles   |
| 3      | Dolomite                         | 27,000           | Open Market                                       | 50 KMs                    | By Road through covered vehicles   |
| 4      | Coal (Domestic)                  | 180,000          | SECL Coal mines                                   | 200 KMs                   | By Rail to nearest sidings and then by Road through covered vehicles                         |
|        | <b>Total</b>                     | <b>2,075,400</b> |   |                           |  |

# Material balance on Dry basis.

**For Sponge Iron Plant**

| S. No. | Raw Material        | Qty (in TPA)   | Source          | Distance | Mode of Transportation   |
|--------|---------------------|----------------|-----------------|----------|--|
| 1      | Pellet              | 316,800        | Captive plant   | -        | Internal Roads   |
| 2      | Coal                | 237,600        | SECL Coal mines | 200 KMs  | By Rail to nearest sidings and then by Road through covered vehicles |
| 3      | Dolomite            | 6,930          | Open Market     | 50 KMs   | By Road through covered vehicles                                     |
| 4      | Refractory Material | 297            | Open Market     | 100 KMs  | By Road through covered vehicles                                     |
|        | <b>Total</b>        | <b>561,627</b> |                 |          |  |

**For Induction Furnace (Steel Melting Shop)**

| S. No. | Raw Material | Qty (in TPA) | Source        | Distance | Mode of Transportation |
|--------|--------------|--------------|---------------|----------|------------------------|
| 1      | Sponge Iron  | 198,000      | Captive plant | -        | Internal Roads         |

| S. No. | Raw Material                               | Qty (in TPA) | Source                | Distance   | Mode of Transportation           |
|--------|--|--------------|-----------------------|------------|----------------------------------|
| 2      | Pig Iron / CI Scrap                        | 24,494       | Local market          | 100 KMs    | By Road through covered vehicles |
| 3      | Melting Scrap                              | 4,100        | Captive plant         | Or 100 KMs | Internal Roads                   |
| 4      | Ferro Alloys                               | 1,980        | Captive plant         | Or 100 KMs | Internal Roads                   |
| 5      | Aluminum                                   | 198          | Open Market/<br>BALCO | 150 KMs    | By Road through covered vehicles |
| 6      | Ramming Mass                               | 495          | Open Market           | 100 KMs    | By Road through covered vehicles |
| 7      | Steel Sheet Former                         | 50           | Open Market           | 100 KMs    | By Road through covered vehicles |
| 8      | Furnace Oil for Ladle Preheating           | 384          | Open Market           | 70 KMs     | By Road through Tankers          |
| 9      | Calcined Lime for Refining of Liquid Steel | 9,900        | Open Market           | 250 KMs    | By Road through covered vehicles |
| 10     | Fluorspar and other additives for de phos  | 1,980        | Open Market           | 300 KMs    | By Road through covered vehicles |
| 11     | Electrode for LRF (Arc Furnace)            | 396          | Open Market           | 500 KMs    | By Road through covered vehicles |
|        | <b>Total</b>                               | 241,977      |                       |            |                                  |

#### For Hot Charging based MS Rerolling Mill

| S. No. | Raw Material | Qty (in TPA) | Source        | Mode of Transportation |
|--------|--------------|--------------|---------------|------------------------|
| 1      | Hot Billets  | 173,250      | Captive plant | Through Conveyor belts |
|        | <b>Total</b> | 173,250      |               |                        |

#### For Reheating Furnace based MS Rerolling Mill

| S. No. | Raw Material               | Qty (in TPA)  | Source  | Mode of Transportation                              |
|--------|----------------------------|---------------|---|---|
| 1      | Cold MS Billets            | 57,750        | Captive plant / Local market as per requirement | Internal Transfer/ By Road through covered vehicles |
| 2      | Coal for Reheating Furnace | 6,930         | SECL Mines/ Local Market                        | By Road through covered vehicles                    |
|        | <b>Total</b>               | <b>64,680</b> |   |   |

#### For Ferro Alloys Plant (SiMn, FeMn, FeSi)

(Raw Material Balance considered based on Silico Manganese)

| S. No. | Raw Material            | Qty (in TPA) | Source   | Mode of Transportation           |
|--------|-------------------------|--------------|--|----------------------------------|
| 1      | Manganese Ore           | 37,842       | Mines at Orissa and Madhya Pradesh and Vidarbha region | By Road through covered vehicles |
| 2      | High Manganese Ore Slag | 7,208        | Open Market  | By Road through covered vehicles |
| 3      | Quartz                  | 1,442        | Mines in Raigarh                                       | By Road through covered vehicles |
| 4      | Coke/Coal/Charcoal      | 10,812       | Open Market  | By Road through covered vehicles |

| S. No. | Raw Material                    | Qty (in TPA)  | Source            | Mode of Transportation           |
|--------|---------------------------------|---------------|-------------------|----------------------------------|
| 5      | Dolomite                        | 541           | Mines in Bilaspur | By Road through covered vehicles |
| 6      | Electrode Paste                 | 541           | Local Industries  | By Road through covered vehicles |
| 7      | M.S. Item.                      | 181           | Local Industries  | Internal Transfer                |
| 8      | Lancing Pipe and Canister Sheet | 271           | Local Industries  | By Road through covered vehicles |
| 9      | Oxygen Gas                      | 55            | Local Industries  |                                  |
|        | <b>Total</b>                    | <b>58,893</b> |                   |                                  |

**Captive CFBC Power Plant (16 MW)**

| S. No. | Raw Material         | Qty (in TPA)     | Source                    | Mode of Transportation           |
|--------|----------------------|------------------|---------------------------|----------------------------------|
| 1      | Char/ Dolochar       | 57,750.00        | captive generation in SID | Internally available.            |
| 2      | Coal                 | 30,086.00        | SECL Mines ( 200 KM)      | By Road through covered vehicles |
| 3      | Fluidizing Bed Media | 150.00           | Open Market; (100 KMs)    | By Road through covered vehicles |
|        | <b>Total</b>         | <b>87,986.00</b> |                           |                                  |

**For Cement Grinding Unit (100% of PPC or PSC or OPC):**

**i) For 100%PPC**

| S. No. | Raw Material    | Qty (in TPA)   | Source                 | Mode of Transportation           |
|--------|-----------------|----------------|------------------------|----------------------------------|
| 1      | Clinker         | 65,000         | Cement plants 100 KMs  | By Road through covered vehicles |
| 2      | Gypsum          | 2,500          | Open Market; (100 KMs) | By Road through covered vehicles |
| 3      | Fly Ash         | 32,500         | Captive Plant          | Internal Roads                   |
|        | <b>Total ::</b> | <b>100,000</b> |                        |                                  |

**or**

**ii) For 100% PSC**

| S. No. | Raw Material        | Qty (in TPA)   | Source                 | Mode of Transportation           |
|--------|---------------------|----------------|------------------------|----------------------------------|
| 1      | Clinker             | 32,500         | Cement plants 100 KMs  | By Road through covered vehicles |
| 2      | Gypsum              | 2,500          | Open Market; (100 KMs) | By Road through covered vehicles |
| 3      | Slag (15% Moisture) | 65,000         | Captive Plant          | Internal Roads                   |
|        | <b>Total ::</b>     | <b>100,000</b> |                        |                                  |

**Or**

**iii) For 100% OPC**

| S. No. | Raw Material    | Qty (in TPA)   | Source                 | Mode of Transportation           |
|--------|-----------------|----------------|------------------------|----------------------------------|
| 1      | Clinker         | 95,000         | Cement plants 100 KMs  | By Road through covered vehicles |
| 2      | Gypsum          | 5,000          | Open Market; (100 KMs) | By Road through covered vehicles |
|        | <b>Total ::</b> | <b>100,000</b> |                        |                                  |

**For Fly Ash Brick Plant:**

| S. No. | Raw Material                         | Qty (in TPA) | Source                 | Mode of Transportation           |
|--------|--------------------------------------|--------------|------------------------|----------------------------------|
| 1      | Fly Ash                              | 90,090       | Captive Plant          | Internal Roads                   |
| 2      | Gypsum                               | 13,860       | Open Market; (100 KMs) | By Road through covered vehicles |
| 3      | Grounded Slag from Induction Furnace | 34,650       | Captive Plant          | Internal Roads                   |
|        | <b>Total ::</b>                      | 127,240      |                        |                                  |

48.11.6 Total yearly water requirement will be 2400 KLD which will be sourced from Surface Water i.e. from Shivnath River, for which application for allotment of water has already been submitted to Chhattisgarh Water Resource Department. Further, the proponent has decided to implement a 60,000 KL Rain water collection Tank which will be able to collect sufficient rain water during rainy days which would continuously be collecting rain water during the rainy days.

48.11.7 The power requirement for the project is estimated as 59 MW, 32 MW will be met through captive power plant and 27 MW will be sourced through State Grid (CSPDCL). In addition to this, total 2 nos. of 3300 kVA DG sets are proposed for emergency backup.

48.11.8 The capital cost of the project is Rs 444.21 Crores (including existing cost & proposed CER) and the capital cost for environmental protection measures is proposed as Rs. 15.90 Crores and Recurring Cost of Rs. 270 Lakhs/annum. The employment generation from the proposed project is 1140 persons.

48.11.9 It has been reported by PP that, there is no violation under EIA Notification, 2006/court case/show cause/direction related to the project under consideration.

48.11.10 Name of the EIA Consultant: M/s. Anacon Laboratories Pvt. Ltd., Nagpur [Sl. No. 66, List of ACOs with their Certificate / Extension Letter no. Rev. 15, October 11, 2021].

48.11.11 Proposed Terms of Reference (**Baseline data collection period: 1<sup>st</sup> October 2021 to 31<sup>st</sup> December 2021**):

| Attributes                   | Parameters   | Sampling            |                    | Remarks |
|------------------------------|--|---------------------|--------------------|---------|
|                              |  | No. of stations     | Frequency          |         |
| A. Air                       |  |                     |                    |         |
| a. Meteorological parameters | Temperature, Relative Humidity, rainfall, wind direction & wind speed.   | 1 (At project site) | Daily              | -       |
| b. AAQ parameters            | PM <sub>10</sub> , PM <sub>2.5</sub> , SO <sub>2</sub> , NO <sub>2</sub> , NH <sub>3</sub> , Ozone, CO, Benzene and Benzopyrene & Heavy metals, Heavy metals: Ni, Pb, As | 8                   | Monthly            | -       |
| B. Noise                     | Sound pressure level (Leq)   | 8                   | Monthly (day time) | -       |

| Attributes                   | Parameters  | Sampling         |                  | Remarks |
|------------------------------|---|------------------|------------------|---------|
|                              |   | No. of stations  | Frequency        |         |
|                              |   |                  | and night time)  |         |
| C. Water                     |   | 13               |                  |         |
| Surface water                | As per IS: 10500  | 5                | Once in a month  | -       |
| Ground water                 |   | 8                |                  |         |
| D. Land                      |   |                  |                  |         |
| a. Soil quality              | Physical and nutrition properties of soil   | 8                | Once in a season | -       |
| b. Land use                  |   |                  |                  |         |
| E. Biological                | Flora and fauna within study depending on Ecological receptors in the study area Aquatic Ecological Study 3 locations at Shivnath River and other River in study area | 3                | Once in a year   | -       |
| a. Aquatic                   |   |                  |                  |         |
| b. Terrestrial               |   |                  |                  |         |
| F. Socio-economic parameters | Occupational Health monitoring of employees   | 1 (Project site) | Once in a year   | -       |

#### Observations of the Committee

48.11.12 The EAC noted the following:

- i. TOR is being sought for undertaking EIA study for steel plant comprising of iron ore beneficiation plant of 1.2 MTPA capacity, 1.8 MTPA pellet plant, 198000 TPA DRI, 194000 TPA rolled products, Ferro Alloys and pig iron from 4x2.5 MVA SAF, CPP 16 MW WHRB and 16 MW CFBC, 100000 TPA cement grinding mill and 138600 TPA Fly ash bricks.
- ii. Total land required is 45.95 ha. The land is under the process of acquisition and R&R is not involved.
- iii. Mudpar village is located at 700m from site.

#### Recommendations of the Committee

48.11.13 After deliberations, the Committee recommended the project proposal for prescribing following specific ToRs for undertaking detailed EIA and EMP study in addition to the generic ToR enclosed at Annexure-1 read with additional ToRs at Annexure-2:

- i. 2400 KLD water shall be drawn from Shivnath river. No ground water abstraction is permitted.
- ii. Action plan to limit the dust emission from all the stacks below 30 mg/Nm<sup>3</sup> shall be furnished.
- iii. Action plan for fugitive emission control in the plant premises shall be provided.
- iv. Action plan for green belt development covering 33% of the project area all along the periphery of the project site with a density of 2500 trees per hectare shall be submitted.

This shall include development of green belt with a width of 20 m within the project site towards Mudapar village located at distance of 700m from the project site.

- v. Action plan for 100 % solid waste utilization shall be submitted.
- vi. Action plan for rain water harvesting shall be submitted.
- vii. Action plan for the stock piles with impervious floor, provision of garland drains and catch pits to trap run off material shall be submitted.
- viii. Action plan for treatment, storage and utilization of tailings shall be submitted.
- ix. 4th hole extraction system shall be provided in the SAF.

48.12 Expansion of Iron Ore Pelletizing plant (0.6 MTPA to 1.8 MTPA), Iron Ore Beneficiation Plant (3.0 MTPA), DRI Plant (0.6 MPTA), Pig Iron BF (0.6 MTPA), Sinter Plant (0.8 MTPA), SMS (1.2 MTPA), Rolling Mills (1.2 MTPA) & Captive Power Plant (125 MW) by **M/s. Ardent Steel Limited** located at Village Phuljhar, Block Bansapal, Tehsil Telkoi, **District Keonjhar, Odisha**. [Online Proposal No. IA/OR/IND/236061/2021; File No.: J-11011/112/2013-IA-II(I)] – **Amendment in Terms of Reference – regarding.**

48.12.1 M/s. Ardent Steel Limited has made online application vide proposal no. IA/OR/IND/236061/2021 dated 27/10/2021 along with Form 3 and sought for amendment in Terms of Reference accorded by the Ministry vide letter no. J-11011/112/2013-IA.II(I) dated 27/06/2018.

**Details submitted by the project proponent**

48.12.2 M/s. Ardent Steel Limited (ASL) had earlier applied for grant of ToR for Expansion of Iron Ore Pelletisation Plant (0.6 MTPA to 1.8 MTPA), Iron Ore Beneficiation Plant (3.0 MTPA), DRI Plant (0.6 MTPA), Pig Iron BF (0.6 MTPA), Sinter Plant (0.8 MTPA), SMS (1.2 MTPA), Rolling Mill (1.2MTPA) & CPP (125 MW). The proposal was considered in 32<sup>nd</sup> meeting of Expert Appraisal Committee (Industry- 1) held on 11-13<sup>th</sup> June, 2018. Accordingly TOR was issued vide letter no J-11011/112/2013-IA.II(I) dated 27/06/2018.

48.12.3 As per the documents submitted at the time of grant of ToR, the total land requirement for the expansion project was 432.019 Acre (Gov. Land: 330.411 Acres and Private Land: 101.608 Acres) with a specific ToR that PP shall obtain and produce a letter from the concerned DFO specifying the minimum width between the boundary of the forest area and proposed plant boundary. As per the specific ToR no v, PP submitted a letter dated 31/12/2020 of Divisional Forest Officer which states that plot no 1817, 1815, 1757, 1795, 1798, 1770, 1567, 1571 & 1540 all in khata no. 153 in phuljhar village under Banspal tehsil are lying within the proposed expansion site. Hence, forest clearance would be required if the said nine plots are to be utilized for expansion of the plant.

48.12.4 The instant proposal of M/s. ASL is for excluding the involvement of aforementioned forest land and reduction in project area by reducing the capacity of the arc furnace, sinter plant, rolling mill and CPP. The configuration & capacity of units granted in TOR dated 27/06/2018 and proposed amendment is as follows:

| S No | Unit/ facility               | Description as per approved ToR | Amendment proposed |
|------|------------------------------|---------------------------------|--------------------|
| 1.   | Iron ore beneficiation plant | 3.0 MTPA                        | 3.0 MTPA           |

| <b>S No</b> | <b>Unit/ facility</b>    | <b>Description as per approved ToR</b>    | <b>Amendment proposed</b>         |
|-------------|--------------------------|---|-----------------------------------|
| 2.          | Iron Ore Pellet Plant    | 1.80 MTPA (0.6 MTPA + 1.2 MTPA)           | 1.70 MTPA (0.85 MTPA + 0.85 MTPA) |
| 3.          | Pig iron (Blast furnace) | 0.60 MTPA (1750 m <sup>3</sup> )          | 0.60 MTPA                         |
| 4.          | DRI plant                | 0.60 MTPA (4x500 TPD)                     | 0.36 MTPA (2x600 TPD)             |
| 5.          | Sinter plant             | 0.80 MTPA (180 m <sup>2</sup> grate area) | 0.60 MTPA                         |
| 6.          | SMS/Arc Furnace          | 1.20 MTPA                                 | 0.72 MTPA                         |
| 7.          | Rolling mills            | 1.20 MTPA                                 | 0.70 MTPA                         |
| 8.          | Captive Power Plant      | 125 MW (WHRB: 75 MW + AFBC: 50 MW)        | 70 MW (WHRB: 35 MW + AFBC: 35 MW) |

48.12.5 Any other amendment sought:

| <b>S No</b>   | <b>Raw Material/ Project requirement</b> | <b>Description as per approved ToR</b> | <b>Amendment proposed</b> |
|---------------|--|--|---------------------------|
| 1             | Iron ore fines                           | 26,11,800 TPA                          | 20,50,000 TPA             |
| 2             | Bentonite                                | 12,600 TPA                             | 6,070 TPA                 |
| 3             | Limestone /Dolomite                      | 2,80,500 TPA                           | 2,80,000 TPA              |
| 4             | Coal                                     | 8,14,800 TPA                           | 8,05,640 TPA              |
| 5             | Coke                                     | 3,14,000 TPA                           | 3,14,000 TPA              |
| 6             | Furnace Oil                              | 18,000 TPA                             | 16,465 TPA                |
| 7             | Calcinated Dolo                          | 16,000 TPA                             | 15,912 TPA                |
| 8             | Ferro Alloys                             | 18,000 TPA                             | 11,271 TPA                |
| <b>Others</b> |  |  |                           |
| 9             | Water requirement                        | 16,184 KLD                             | 11,442 KLD                |
| 10            | Electricity demand                       | 93.8 MW                                | 56.0 MW                   |
| 11            | Project area                             | 432.019 Acre                           | 196.448 Acre              |
| 12            | Employment                               | 1108                                   | 1037                      |
| 13            | Total project cost                       | 4031.47 crores                         | 1805.39 crores            |

48.12.6 The proponent has obtained CTO for 0.85 MTPA Iron Ore Pellets from SPCB Odisha vide letter dated 16141/IND-I-CON-6363 dated 22/10/2021.

48.12.7 It has been reported by PP that, there is no violation under EIA Notification, 2006/court case/show cause/direction related to the project under consideration.

**Observations of the Committee**

48.12.8 The Committee noted the following:

- i. TOR was issued in June 2018 for expansion of existing steel plant at Keonjhar, Odisha. As per the documents submitted at the time of grant of ToR, the total land requirement for the expansion project was 432.019 Acre (Gov. Land: 330.411 Acres and Private Land: 101.608 Acres) including forest land.
- ii. Proponent has not been able to acquire Forest land and hence has come back for TOR amendment for reduced land and revised plant configuration.

- iii. Land requirement is reduced from 432.019 acres to 196.45 acres. Forest land has been excluded.
- iv. Revised plant configuration is; Pellet Plant-1.7 MTPA; WHRB – 35 MW; SMS-0.72 MTPA; DRI -2x600 TPD; Sinter Plant 0.6 MTPA (60 m<sup>2</sup>), AFBC- 3 MTPA, HSM - 0.7 MTPA; BF- 0.6 MTPA (550 m<sup>3</sup>) and IOBP 3.0 MTPA.
- v. There is a gap of 500 m between plant and forest boundary.

#### **Recommendations of the Committee**

48.12.9 After deliberations, the Committee recommended the project proposal for amendment in the ToR dated 27/06/2018 as mentioned above at para no. 48.12.4 & 48.12.5 subject to stipulation following additional specific ToRs

- i. Green belt shall be developed in 33% of the total area all along the entire periphery of the area with a density of 2500 trees per ha. This shall include development of green belt with a width of 50 m within the project site towards nine forest plots located adjacent to the project site.
- ii. Particulate matter emission from all the stacks shall not exceed 30 mg/Nm<sup>3</sup>.
- iii. Conservation plan duly approved by the State Forest department for the protection of Forest patches situated adjacent to the project site shall be submitted.
- iv. 100 % solid waste generated in the facility shall be utilized. Maximum 90 days storage capacity shall be allowed inside the plant complex for solid wastes.
- v. All stockyards shall be having impervious flooring and shall be equipped with water spray system for dust suppression. Stock yards shall also have garland drains to trap the run off material.
- vi. Slip roads shall be provided at the gates and along crossings on main roads.
- vii. Tar generated from Producer Gas Plant (PGP) shall be used as fuel in Pellet plant and phenolic water shall be incinerated in After Burn Chamber (ABC) of DRI kilns.
- viii. 477 KLD water will be sourced from Baitarni River. No Ground water shall be abstracted.

48.13 Proposed sponge iron plant (2x100 TPD & 2x350TPD) – 3,15,000 TPA; MS billets (IF:15Tx8) – 3,15,000 TPA; Rerolled steel product through hot charging mill – 1,87,630TPA; Re-rolled steel product through billet reheating furnace – 94622 TPA; Ferro alloys (4x4 MVA) – 31920 TPA (OR) Pig iron – 63840 TPA; Captive power plant (WHRB – 20 MW; AFBC – 12 MW) and fly ash bricks – 122500 TPA **by M/s. Gravity Sponge and Power Private Limited** located at village Champa, Tehsil Tilda, **District Raipur, Chhattisgarh** - [Online Proposal No. IA/CG/IND/107593/2019, File No. IA-J-11011/237/2019-IA-II(I)] –**Environment Clearance– regarding**

48.13.1 **M/s. Gravity Sponge and Power Private Limited** has made an online application vide proposal no. IA/CG/IND/107593/2019 dated 03/11/2021 along with copy of EIA/EMP report and Form-2 seeking Environmental Clearance (EC) under the provisions of the EIA Notification, 2006 for the project mentioned above. The proposed project activity is listed at schedule no. 3(a) Metallurgical industries (ferrous & nonferrous) and 1(d) Thermal Power Plants under Category “A” of the schedule of the EIA Notification, 2006 and appraisal at Central Level.

#### **Details submitted by the project proponent**

48.13.2 The detail of the ToR is furnished as below:

| Date of application | Consideration   | Details            | Date of accord |
|---------------------|---|--------------------|----------------|
| 10/07/2019          | 9 <sup>th</sup> meeting of REAC (Industry-I) held on 30-31 <sup>st</sup> July, 2019 | Terms of Reference | 21/08/2019     |

48.13.3 The project of M/s. Gravity Sponge and Power Private Limited located at Village - Champa, Tehsil Tilda, District Raipur Chhattisgarh is for sponge iron plant (2x100 TPD & 2 x350TPD) – 3,15,000 TPA; MS billets (IF:15Tx8) – 3,15,000 TPA; Rerolled steel product through hot charging mill – 1,87,630TPA; Re-rolled steel product through billet reheating furnace – 94622 TPA; Ferro alloys (4x4 MVA) – 31920 TPA (OR) Pig iron – 63840 TPA; Captive power plant (WHRB – 20 MW; AFBC – 12 MW) and fly ash bricks – 122500 TPA.

48.13.4 Environmental site settings

| S No | Particulars  | Details   | Remark   |
|------|--|---|--|
| ix.  | Total land   | 24.858 ha [Private land]                                | The proposed site is having clear land without vegetation and not used for cultivation. Sufficient flat land, free from major undulations is available for construction.                                   |
| x.   | Land acquisition details as per MoEF&CC O.M. dated 7/10/2014 | 24.858 ha land is already acquired by the company.      | Small patches of Govt land and private lands which are adjoining to the present boundary of about 5.6 hectare are also being pursued to be acquired. It will help the project boundary to be more compact. |
| xi.  | Existence of habitation & involvement of R&R, if any.        | No R & R is involved in the project.                    |  |
| xii. | Latitude and Longitude of the project site                   | Latitude:- 21°33'16.50" N<br>Longitude:- 81°51'56.00" E |  |

| S No  | Particulars   | Details  | Remark                          |
|-------|---|--|---------------------------------|
| xiii. | Elevation of the project site   | 291 m AMSL   |                                 |
| xiv.  | Involvement of Forest land if any.  | No   |                                 |
| xv.   | Water body exists within the project site as well as study area   | <p><b><u>Project site:</u></b> Nil</p> <p><b><u>Study area</u></b></p> <ul style="list-style-type: none"> <li>• Jamuniya Nala – 3.5 km, W.</li> <li>• Banjari Nala – 6 km, E.</li> <li>• Kumhari Tank – 7.6 km, SE.</li> <li>• Bhatapara Branch (Mahanadi Canal) – 7.7 km, WSW.</li> <li>• Kumhari Irrigation Channel – 4.3 km, E</li> <li>• Manpur Reservoir – 1.5 km, E</li> </ul> |                                 |
| xvi.  | Existence of ESZ/ ESA/ national park / wildlife sanctuary/ biosphere reserve/ tiger reserve/ elephant reserve etc. if any within the study area | Nil  | Bilari Ghughua RF – 9.1 km, WNW |

48.13.5 The unit configuration and capacity of proposed unit are given as below:

| Sl.    | Process plant                  | Proposed capacity of plant    | Proposed product name                                    | Annual capacity (in TPA) | Remarks |
|--------|--------------------------------|-------------------------------|--|--------------------------|---------|
| 1.     | DRI kiln                       | 100 TPD X 2 and 350 TPD X 2   | Sponge Iron  | 315000 TPA               | None    |
| 2.     | Induction Furnace, LRF, CCM    | (15 TONS X 8)                 | MS Billet  | 315000 TPA               |         |
| and/or |                                |                               |  |                          |         |
| 3.     | Hot charging rolling mill      | 187630 TPA                    | Rerolled steel product (wire rod, etc)                   | 187630 TPA               |         |
|        | Billet reheating furnace (BRF) | 94622 TPA                     | Rerolled steel product (rerolled structural steel, etc.) | 94622 TPA                |         |
| 4.     | Submerged arc furnace          | 4x4 MVA of capacity 31920 TPA | Ferro Alloys   | 31920 TPA                |         |

| Sl. | Process plant         | Proposed capacity of plant    | Proposed product name | Annual capacity (in TPA) | Remarks |
|-----|-----------------------|-------------------------------|-----------------------|--------------------------|---------|
|     | Or                    |                               |                       |                          |         |
|     | Submerged arc furnace | 4x4 MVA of capacity 63840 TPA | Pig Iron              | 63840 TPA                |         |
| 5.  | WHRB                  | 20MW                          | Captive power         | 20MW                     |         |
| 6.  | AFBC                  | 12 MW                         | Captive power         | 12 MW                    |         |
| 7.  | Fly ash brick making  | 122500 TPA                    | Fly ash bricks        | 122500 TPA               |         |

48.13.6 The details of the raw material requirement for the proposed project along with its source and mode of transportation is given as below:

| S. No. | Raw Material                     | Quantity required per annum (TPA) | Source  | Distance from site (km) | Mode of Transportation   |
|--------|----------------------------------|-----------------------------------|---|-------------------------|--|
| 1.     | Iron ore                         | 510300                            | Odisha iron ore mines and NMDC. Pellet plants in Chhattisgarh | Within 500 kms          | By Rail up to nearest Railway Siding and then Road through covered truck |
| 2.     | Coal                             | 393750                            | SECL coal mines/ Coal India                                   | Within 100 kms          | By Road through covered truck  |
| 3.     | Limestone/ dolomite              | 11025                             | Open market   | Within 100 kms          | By Road through covered truck  |
| 4.     | Refractory material              | 500                               | Open market   | Within 100 kms          | By Road through covered truck  |
| 5.     | Sponge iron                      | 315000                            | Captive production/ local market                              | Internal Transfer       | Internal Transfer  |
| 6.     | Pig iron/ Cast Iron/ HM scrap    | 47250                             | Captive production/ local market                              | Internal Transfer       | Internal Transfer  |
| 7.     | Aluminum                         | 315                               | Open market   | Within 100 kms          | By Road through covered truck  |
| 8.     | Ramming mass                     | 788                               | Open market   | Within 100 kms          | By Road through covered truck  |
| 9.     | Coal for reheating furnace       | 12210                             | SECL mines/ Coal India  | Within 100 kms          | By Road through covered truck  |
| 10.    | Furnace oil for ladle preheating | 150 (KLA)                         | Open market   | Within 100 kms          | By Road through covered truck  |

| S. No. | Raw Material                           | Quantity required per annum (TPA) | Source                    | Distance from site (km) | Mode of Transportation        |
|--------|--|-----------------------------------|---------------------------|-------------------------|-------------------------------|
| 11.    | Mn ore                                 | 67032                             | Open market               | Within 300 kms          | By Road through covered truck |
| 12.    | High Mn slag                           | 12768                             | Open market               | Within 100 kms          | By Road through covered truck |
| 13.    | Quartz                                 | 2554                              | Open market               | Within 100 kms          | Internally Available          |
| 14.    | Coke/coal/charcoal                     | 19152                             | Open market               | Within 100 kms          | By Road through covered truck |
| 15.    | Dolomite                               | 958                               | Open market               | Within 100 kms          | By Road through covered truck |
| 16.    | Electrode paste                        | 958                               | Open market               | Within 100 kms          | By Road through covered truck |
| 17.    | M.S. item                              | 320                               | Open Market               | Within 100 kms          | By Road through covered truck |
| 18.    | Lancing pipe                           | 479                               | Open market               | Within 100 kms          | By Road through covered truck |
| 19.    | Char dolochar                          | 78826                             | Captive by-product        | Internal Transfer       | Internal Transfer             |
| 20.    | Coal                                   | 50400                             | SECL mines/ Coal India    | Within 100 kms          | By Road through covered truck |
| 21.    | Fluidizing bed media                   | 150                               | Open market               | Within 100 kms          | By Road through covered truck |
| 22.    | Fly ash                                | 85750                             | Fly ash brick/block, etc. | Internal Transfer       | Internal Transfer             |
| 23.    | Granulated ferro alloys slag           | 8575                              | Ferro alloys plant        | Internal Transfer       | Internal Transfer             |
| 24.    | Gypsum and cement                      | 18375                             | Fly ash brick/block, etc. | Within 100 kms          | Internal Transfer             |
| 25.    | Granulated slag from induction furnace | 9800                              | Induction furnace etc.    | Internal Transfer       | Internal Transfer             |

48.13.7 Estimated water requirement will be 1230 KLD, out of which 68 KLD will be used for domestic purposes. It is proposed to meet this water requirement through combination of 120000 KL capacity rain water collection reservoir to meet water requirement of 97 days. During the rainy season, about 75 days, it is proposed to source the water from rain water collection tank of 25000 KL, remaining 158 days water will be sourced from ground water in the beginning and then later on from surface water. Deemed NOC to draw ground water has been obtained from CGWA. The final NOC will be obtained before commencing to draw ground water. The company has also applied to WRD Chhattisgarh Govt for allowing it to draw surface water from nearby available surface water resources. The Govt. of

Chhattisgarh constructed Manpur Reservoir which is 1.5 KM distance in East of South East direction from the project site. Thus, with due permission from Water Resources Department, Chhattisgarh will further reduce the ground water requirement.

48.13.8 Total power requirement will be 46.26 MW out of which 32 MW will be met through captive power plant and 14.26 MW will be sourced through State Grid (CSPDCL). In addition to these total 3300 kVA DG sets are proposed for emergency backup.

48.13.9 Baseline Environmental Studies

| Period                               | 1 <sup>st</sup> October 2020 – 31 <sup>st</sup> December 2020  |  |   |
|--------------------------------------|--|--|---|
| AAQ parameters at 08 locations       | <ul style="list-style-type: none"> <li>• PM<sub>10</sub> = 52.9 -91.2 µg/m<sup>3</sup></li> <li>• PM<sub>2.5</sub> = 16 – 40.5 µg/m<sup>3</sup></li> <li>• SO<sub>2</sub> = 12 – 31.8 µg/m<sup>3</sup></li> <li>• NO<sub>2</sub> = 14.3 – 27.1 µg/m<sup>3</sup></li> <li>• CO = 0.215- 0.47 mg/m<sup>3</sup></li> <li>• Ozone = 5.1 – 11.4 µg/m<sup>3</sup></li> <li>• NH<sub>3</sub> = 5.5-16 µg/m<sup>3</sup></li> </ul>   |  |   |
| AAQ modeling (Incremental GLC)       | PM = 1.9 µg/m <sup>3</sup> (2.2 km WSW and SSW)<br>SO <sub>2</sub> = 17 µg/m <sup>3</sup> (2.2 km WSW and SSW)<br>NO <sub>x</sub> = 5.6 µg/m <sup>3</sup> (2.2 km WSW and SSW)   |  |   |
| Ground water quality at 8 locations  | pH: 7.13-7.92, TDS: 510-982 mg/l, Total hardness: 287.97-686.45 mg/l, Fluoride: 0.19-0.62 mg/l, Nitrate: 19.86-41.86 mg/l and Sulphate: 14.08-43.98 l.   |  |   |
| Surface water quality at 8 locations | pH: 7.08-7.91, TDS: 432-486 mg/l , Total hardness:155.39-182.08 mg/l, Chloride: 50.72-139.46 mg/l, Sulphate: 14.62-45.88 mg/l, Dissolved oxygen (DO): 6.1-6.3 mg/l.  |  |   |
| Noise levels                         | Noise levels at every station were within CECB standards. <ul style="list-style-type: none"> <li>• Residential Area – 52.7 to 54.4 dBA for day time and 43.2 to 44.5 dBA for night time.</li> <li>• Commercial Area – 56.6 to 63.1 dBA for day time and 49.8 to 54.8 dBA for night time.</li> <li>• Silence Zone – 45.4 dBA to 48.6 dBA for day time and 36.4 dBA to 38.2 dBA for night time.</li> <li>• Industrial area - 62.9 to 65.7 dBA for day time and 54.7 to 57.1 dBA for night time.</li> </ul> |  |   |
| Traffic assessment study findings    | <b>Particulars</b>   | <b>Details</b>   | <b>Remarks</b>                                |
|                                      | Traffic Load Study Period  | Continuously for 24 hrs  | By visual observations and counting vehicles. |
|                                      | Traffic Load (Baseline) (PCU/Day)  | Plying towards Raigarh/ Korba- 316<br>Plying towards Raipur- 402.5<br>Plying towards Raipur- 402.5 |   |

| Period          | 1 <sup>st</sup> October 2020 – 31 <sup>st</sup> December 2020  |  |   |
|-----------------|--|--|---|
|                 | Total Traffic Load during Operation of Proposed Plant (PCU/Day)  | Plying towards Raigarh/ 1062<br>Plying towards Raipur- 1148.5<br>Plying towards Raipur- 1110 |   |
|                 | Traffic Capacity as per the IRC 73: 1980 For Highways (PCU/Day)  | 15000 for all the above shown roads  | The LoS value from the proposed activity is found to be “Excellent” for Raigarh/Korba, Towards Raipur towards Ghulghul-Tulsi Road SH-10 Baloda Bazar which is connected to Raipur-Bilaspur road at junction point of Simga which was also “Excellent” |
| Flora and fauna | No Schedule - I species have been observed and recorded in the study area. No Critically Endangered flora found in the study area. |  |   |

48.13.10 The details of solid and hazardous waste generation along with its mode of treatment/disposal is furnished as below:

| S. No.             | Type of Waste                       | Quantity generated in TPA | Mode of Treatment /Disposal   |
|--------------------|-------------------------------------|---------------------------|---|
| <b>Solid Waste</b> |                                     |                           |   |
| 1.                 | Char/ Dolochar                      | 78750                     | To be used in own captive power plant.  |
| 2.                 | Bottom and Flue Dust Ash            | 63000                     | To be used in Brick making.   |
| 3.                 | Kiln Accretion and Refractory waste | 1200                      | To be used in Brick making and low lying areas.                                       |
| 4.                 | Mill Scale (CCM and RM)             | 9644                      | To be used in own Ferro Alloys as raw material/ sold to Ferro Alloys / Pellet Plants. |
| 5.                 | MS Scrap                            | 10504                     | Sold / Reused in Induction furnace.   |
| 6.                 | Slag                                | 43234                     | Sold to metal recovery units.   |
| 7.                 | Ash                                 | 4274                      | To be used for brick making.  |
| 8.                 | Refractory Waste                    | 394                       | Sold to the refractory recycling units/ used in brick making.                         |
| 9.                 | Ferro Alloy Slag                    | 31920                     | To be used in Brick making after granulating.   |
| 10.                | Fly Ash                             | 59120                     | To be used in own Fly Ash Brick making unit.  |
| 11.                | Ash from Coal                       | 22680                     | To be used in own Fly Ash Brick making unit.  |

| S. No.                 | Type of Waste                           | Quantity generated in TPA | Mode of Treatment /Disposal   |
|------------------------|---|---------------------------|---|
| 12.                    | Fluidized Bet material                  | 150                       | To be used in own Fly Ash Brick making unit.  |
| <b>Hazardous Waste</b> |   |                           |   |
| 13.                    | Waste Oil/Used Oil (H. W. Category 5.1) | 4 KL/annum                | Will be given to authorized recycler having authorization from competent authority. |

48.13.11 Public Consultation:

|                                |   |
|--------------------------------|---|
| Details of advertisement given | The announcement notice of public consultation/hearing scheduled date and agenda was made public through print media advertisement and reflected in one of National English Daily and One Hindi regional Newspapers (Hindi & English).<br><br>1. Patrika (Hindi News Paper) Dated- 03/06/2021.<br>2. The Pioneer (English National Daily Newspaper) Dated- 03/06/2021   |
| Date of public consultation    | 03/07/2021  |
| Venue                          | In front of Gauthan of Gram Panchayat Champa at Village Champa Tehsil: Tilda District- Raipur (CG).   |
| Presiding Officer              | Additional District Magistrate, Raipur  |
| Major issues raised            | <ul style="list-style-type: none"> <li>• Regarding Provision of Employment to locals</li> <li>• Most of the people welcomed the project for the advantage of employment.</li> <li>• Regarding Waste water disposal</li> <li>• Regarding Impact of Air Pollution on Air Regime</li> <li>• Development of Area.</li> <li>• Education facilities, Cow shelters, development of playground under CER.</li> <li>• Harm to crops should be avoided</li> </ul> |

**Action plan as per MoEF&CC O.M. dated 30/09/2020**

| Sl. | Name of Person & Place                   | Queries/objections/suggestions raised during Public Hearing   | Response/Commitments by Project Proponents                  | Action plan with time frame and Budget   |
|-----|--|---|---|--|
| 1.  | Lal Chand Sonwani Village- Manpur        | <ul style="list-style-type: none"> <li>• He supported the proposal.</li> <li>• Employment should be given to the local people.</li> </ul>   | Employment will be given to locals as per Govt. guidelines. | <b>Construction Phase:</b><br>Employment generation 100 Nos. (Temporary basis – 7 to 8 Months)<br><br><b>Operation Phase:</b><br>Employment Generation Total : 969 Nos. out of which Administrative Staff will be 91 and Production staff will be 868 nos. |
| 2.  | Shri Vishram Shahu Village Sarora        | <ul style="list-style-type: none"> <li>• He supported the proposal.</li> <li>• He said that, local youth gets employment due to these projects hence, we support the activity.</li> </ul> | Employment will be given to locals as per Govt. guidelines. |  |
| 3.  | Chandra Prakash Chaubey Village- Belhadi | <ul style="list-style-type: none"> <li>• He supported the proposal.</li> <li>• Employment should be given to the local people</li> </ul>  | Employment will be given to locals as per Govt. guidelines. |  |

| Sl. | Name of Person & Place                               | Queries/objections/suggestions raised during Public Hearing  | Response/Commitments by Project Proponents  | Action plan with time frame and Budget  |
|-----|--|--|---|---|
| 4.  | Ganga Prasad Yadav<br>Village- Borjhiti              | <ul style="list-style-type: none"> <li>• He supported the proposal.</li> <li>• Employment should be given to the local people</li> </ul>   | Employment will be given to locals as per Govt. guidelines.   | <b>Indirect Employment:</b><br>1000 nos. to 1500 nos. indirect employment generation.   |
| 5.  | Chitrasen Banjare<br>Village- Borjhiti               | <ul style="list-style-type: none"> <li>• He supported the proposal.</li> <li>• Employment should be given to the local people</li> </ul>   | Employment will be given to locals as per Govt. guidelines.   |   |
| 6.  | Saket kumar Sahu<br>(Sarpanch)<br>Village- Manpur    | <ul style="list-style-type: none"> <li>• He welcomed the proposal.</li> <li>• He said, the village Manpur is located near the boundary of Balaudabajar and hence is less developed in Raipur District. New projects will help in development of the area. CC Road should be given as village is not benefitted yet by these facilities.</li> <li>• Employment should be given to the local people.</li> </ul>  | <p>To construct the roads, necessary permissions needs to be taken from respective department of govt.</p> <p>Some roads which are not proposed under state govt. will be constructed primarily under CER.</p> <p>Employment will be given to locals as per Govt. guidelines.</p> | <p><b>Budget :</b> Rs. 30.00 Lakhs</p> <p>As per the demand of villagers, 1.5 km long road will be built from outside of the village to the agriculture field for transportation</p> <p><b>Timeframe:</b> Before establishment of plant to December 2022</p>  |
| 7.  | Sonchand Vaghale<br>Village- Champa                  | <ul style="list-style-type: none"> <li>• He supported the proposal.</li> <li>• Air Pollution should not be generated.</li> <li>• Waste water should not be flow outside the plant boundary.</li> <li>• Education facility should be provided with the plant facility.</li> <li>• Employment should be given to the local people.</li> </ul>  | Dust emission will be below 30 mg/Nm <sup>3</sup> . ESP will be used to control air pollution. Advanced effective Air pollution control equipments will be provided. Zero discharge condition will be maintained. Water will only be used for Cooling purposes.                   | <p><b>Budget:</b> CER Budget – <b>Rs. 145 Lakhs</b></p> <p><b>Timeframe:</b> during commissioning of project</p>  |
| 8   | Ashwani Kumar Dhruv<br>(Sarpanch)<br>Village- Champa | <ul style="list-style-type: none"> <li>• Employment should be given to the local people.</li> <li>• Plant should be run without pollution creates.</li> <li>• CC Road should be made in Core zone area.</li> <li>• Extra room facility should be provided in schools, Aganwadi and hospitals.</li> <li>• Pucca Shelter for cattle should be provided to village.</li> <li>• Boundary wall should be provided around Playground.</li> <li>• He supported the proposal.</li> </ul> | School, Cattle Shelter and Playground will developed after necessary permissions from respective authority and discussions with villagers.  | <p><b>Activities covered under CER:</b></p> <p>Pucca Shed for Cow shelter in the village will be built. Rs. 5.00 Lakhs</p> <p>Timeframe: January 2023 to June 2023</p> <p>Provision of Playground for children Rs. 5.00</p> <p>Timeframe: January 2023 to June 2023</p> <p><b>Budget:</b> Rs. 20 Lakhs For renovation of Internal Roads, pavement road or Paver block roads will be built.</p> <p>Timeframe: January 2024 to 2025</p> <p>Budget: Rs. 20 Lakhs School/ Aganwadi/ Community hall spare room will be built.</p> <p>Timeframe: September 2023 to January 2024</p> |
| 9   | Rajesh Verma<br>(Sarpanch)<br>Village- Manpur        | <ul style="list-style-type: none"> <li>• There should be development in the villages.</li> <li>• Employment should be given</li> </ul>   | Employment will be given to locals as per Govt. guidelines.   | School/ Aganwadi/ Community hall spare room will be built.  |

| Sl. | Name of Person & Place                          | Queries/objections/suggestions raised during Public Hearing   | Response/Commitments by Project Proponents   | Action plan with time frame and Budget   |  |
|-----|---|---|--|--|--|
|     |   | to the local people.<br>• He supported the proposal.  |  |  |  |
| 10  | Loknath Patil<br>Village- Champa                | • He supported the proposal.<br>• Employment should be given to the local people.   | Employment will be given to locals as per Govt. guidelines.  | <b>Construction Phase:</b><br>Employment generation 100 Nos. (Temporary basis – 7 to 8 Months)<br><br><b>Operation Phase:</b><br>Employment Generation Total : 969 Nos. out of which Administrative Staff will be 91 and Production staff will be 868 nos.<br><br><b>Indirect Employment:</b><br>1000 nos. to 1500 nos. indirect employment generation |  |
| 11  | Dilip Kumar Barle<br>Village- Champa            | • He supported the proposal.<br>• Employment should be given to the local people.<br>• There should be development in this area.  | Employment will be given to locals as per Govt. guidelines.  |  |  |
| 12  | Chandrakant Patil<br>Village- Champa            | • He supported the proposal.  | Employment will be given to locals as per Govt. guidelines.  |  |  |
| 13  | Raj Kumar Verma (Upsarpanch)<br>Village- Champa | • He supported the proposal.<br>• Employment should be given to the local people.   | Employment will be given to locals as per Govt. guidelines.  |  |  |
| 14  | Damin Bai Verma<br>Village- Champa              | • He supported the proposal.  | Employment will be given to locals as per Govt. guidelines.  |  |  |
| 15  | Sundar Lal Yadav<br>Village- Champa             | • He supported the proposal.  | Employment will be given to locals as per Govt. guidelines.  |  |  |
| 16  | Vijay Kumar Barle<br>Village- Champa            | • He supported the proposal.<br>• Employment should be given to the local people.   | Employment will be given to locals as per Govt. guidelines.  |  |  |
| 17  | Niranjan Verma<br>Village- Champa               | • Employment should be given to the local people.<br>• Measures should be taken to avoid loss of crops and agriculture due to industrial pollution.<br>• He supported the proposal. | All effective measures will be taken by the company, so that no crops will be affected due to air pollution from the plant.<br><br>Employment will be given to locals as per Govt. guidelines.   |  |  |
| 18  | Jyoti Barle<br>Village- Champa                  | • He supported the proposal.  | Noted with thanks  |  | No budget required   |
| 19  | Ramesh Verma<br>Village Borjhiti                | • What percentage of local people will you employ in the plant?<br>• He supported the proposal.   | As per the Guidelines of Govt. and as per the company's policy, 100% unskilled labor will be employed from local village. In Semi-skilled labors, 60% will be taken from local area. In Skilled labors, 40% will be taken from local area. |  | <b>Construction Phase:</b><br>Employment generation 100 Nos. (Temporary basis – 7 to 8 Months)<br><br><b>Operation Phase:</b><br>Employment Generation Total : 969 Nos. out of which Administrative Staff will be 91 and Production staff will |

| Sl. | Name of Person & Place                                | Queries/objections/suggestions raised during Public Hearing  | Response/Commitments by Project Proponents   | Action plan with time frame and Budget   |
|-----|---|--|--|--|
|     |   |  | The proposed project will generate direct employment to 900 people and 1000 to 1500 indirect employment generation will be there.  | be 868 nos   |
| 20  | Suresh Sunita Verma<br>Village- Champa                | <ul style="list-style-type: none"> <li>He supported the proposal.</li> </ul>   | Noted with thanks  | No budget required   |
| 21  | Raju Sharma<br>District Panchayat Chairman,<br>Raipur | <ul style="list-style-type: none"> <li>The Area should be developed.</li> <li>Local people should be given employment.</li> <li>People should not face any problems due to pollution.</li> <li>He supported the proposal.</li> </ul> | <p>Employment will be given to locals as per Govt. guidelines.</p> <p>Dust emission will be below 30 mg/Nm<sup>3</sup>. ESP will be used to control air pollution. Advanced effective Air pollution control equipments will be provided.</p> <p>Zero discharge condition will be maintained. Water will only be used for Cooling purposes.</p> | <p><b>Budget:</b> CER Budget – <b>Rs. 145 Lakhs</b></p> <p><b>Timeframe:</b> during commissioning of project</p> <p>Provision of Playground for children – Rs. 5 Lakhs<br/>Timeframe January 2023 to June 2023</p> <p>Renovation of Playground and Boundary wall renovation<br/>5.00<br/>Timeframe: January 2023 to June 2023</p> <p>Water cooler, Septic tank, Over head tank, Solar power system will be provided to school in village.<br/>Rs. 5.00 Lakhs<br/>Timeframe: July 2022 to June 2027</p> |

**Social need based:**

| S. No. | Particulars   | Rs. (in lakhs) | Timeframe                                      |
|--------|---|----------------|--|
| 1)     | As per the demand of villagers, 1.5 km long road will be built from outside of the village to the agriculture field for transportation. | 30.00          | Before establishment of plant to December 2022 |
| 2)     | For renovation of Internal Roads, pavement road or Paver block roads will be built.   | 20.00          | January 2024 to 2025                           |
| 3)     | School/ Aganwadi/ Community hall spare room will be built.  | 20.00          | September 2023 to January 2024                 |
| 4)     | Building of Spare room for Hospital/ Clinic.  | 10.00          | September 2023 to January 2024                 |

| S. No.           | Particulars   | Rs. (in lakhs) | Timeframe                   |
|------------------|---|----------------|-----------------------------|
| 5)               | To make rural women self-dependent, Skill development programs, weaving machine, embroidery machine, Grinding machine to prepare Papad and Pickle, Computer, Printer etc. will be provided. | 15.00          | December 2022 to March 2023 |
| 6)               | Rain water harvesting structure for WaterShed Management.   | 20.00          | March 2022 to August 2023   |
| 7)               | Greenbelt development on both sides of the road from Ghulghul to Champa and greenbelt development in Cow shelter in the village.  | 5.00           | February 2023 to June 2023  |
| 8)               | Pucca Shed for Cow shelter in the village will be built.  | 5.00           | January 2023 to June 2023   |
| 9)               | Provision of Playground for children  | 5.00           | January 2023 to June 2023   |
| 10)              | Renovation of Playground and Boundary wall renovation.  | 5.00           | January 2023 to June 2023   |
| 11)              | Water cooler, Septic tank, Overhead tank, Solar power system will be provided to school in village.   | 5.00           | March 2024 to March 2025    |
| 12)              | Rs. 10000 per student Scholarship will be offered to 5 boys and 5 student girl for 5 years during establishment of plant student to encourage education.                                    | 5.00           | July 2022 to June 2027      |
| <b>Total Rs.</b> |   | <b>145.00</b>  |                             |

48.13.12 The capital cost of the project is Rs. 35206 Lakhs and the capital cost for environmental protection measures is proposed as Rs. 2789 Lakhs. **(Rs. 27.89 Cr.)** The annual recurring cost towards the environmental protection measures is proposed as Rs 63 Lakhs. **(Rs. 0.63 Cr.)**. The proposed project will provide employment to 969 peoples as direct employment which includes 91 people as administrative staff and 868 people will be production staff whereas indirect employment to 1000 nos. to 1500 nos. persons will also be generated. The details of cost for environmental protection measures are as follows:

| S. NO. | Particulars  | Qty | Amount | Recurring Cost (Operation and Maintenance cost) |
|--------|--|-----|--------|---|
| [A]    | <b>Plant and Machinery used for EMP</b>                                      |     |        |   |
| 1      | Dry ESP for DRI Kilns  | 4   | 10.00  | 0.3   |
|        | Dry ESP for Power Plant  | 1   | 2.50   |   |
| 2      | Bag Houses for the Sponge Iron Kilns   | 8   | 4.80   | 0.144   |
| 3      | Cost of Bag Houses for Induction Furnaces                                    | 2   | 1.20   | 0.036   |
| 4      | Cost of Bag Houses for Ferro Alloys  | 4   | 2.40   |   |
| 4      | Cost of Rotary Vane Wet Scrubber for Rolling Mill for Reheating Furnaces     | 1   | 0.40   | 0.012   |
| 5      | Cost of Bag Houses for Boiler Furnaces for Power Plant Coal Handling and Ash | 2   | 0.80   | 0.024   |

| S. NO.     | Particulars   | Qty   | Amount       | Recurring Cost (Operation and Maintenance cost) |
|------------|---|-------|--------------|---|
|            | Handling Area   |       |              |   |
| <b>[B]</b> | <b>Building and Civil works used for EMP</b>  |       |              |   |
| 6          | Cost of a Common Chimney in Sponge Iron Plant and FBC   | 1     | 0.80         | 0   |
| 7          | Cost of a Common Chimney in Induction Furnace Plant and LRF   | 1     | 0.25         | 0   |
| 8          | Cost of Industrial ETP  | 2     | 0.70         | 0.021   |
| 9          | Oil Trap in the drains system   | 1     | 0.05         | 0   |
| 10         | Silt Arrestation Pit in Storm Water Drains  |       | 0.15         | 0   |
| 11         | Internal Road Black topping and other construction works for Paving the Floors                            |       | 0.40         | 0   |
| 12         | Drainage system   |       | 0.35         | 0   |
| <b>[C]</b> | <b>Exclusive cost of works used for EMP</b>   | 3.090 |              |   |
| 13         | Cost of STP for Domestic Waste  | 1     | 0.30         | 0.009   |
| 14         | Green Belt Plantation along with Irrigation System and Pipe Line  |       | 0.40         | 0.012   |
| 15         | Fugitive dust Control Spray system in Plant   |       | 0.15         | 0.0045  |
| 16         | Movable Vacuum cleaning system  |       | 0.20         | 0.006   |
| 17         | Wheel Washing System in Security area   |       | 0.10         | 0.003   |
| 18         | On Line stack Monitoring three sets in DRI with Power; Induction Furnace and in Rolling mill              | 3     | 0.15         | 0.0045  |
| 19         | On Line AAQ station   | 1     | 0.60         | 0.018   |
| 20         | High Volume sampling and Stack Monitoring Kits  | 4     | 0.40         | 0.012   |
| 21         | Weather Monitoring Station  |       | 0.03         | 0.0009  |
| 22         | Ground water Monitoring Piezo Meters  | 1     | 0.01         | 0.0003  |
| 23         | On Line Effluent Quality Monitoring System(EQMS)  | 1     | 0.10         | 0.003   |
| 24         | Environment Monitoring Laboratory Testing Equipments and Chemicals and Furniture and computer systems etc |       | 0.35         | 0.0105  |
| 25         | Rain Water Harvesting and Recharge system with Roof Harvesting  |       | 0.15         | 0.0045  |
| 26         | Occupational Health and safety  |       | 0.15         | 0.0045  |
|            | <b>Total</b>  |       | <b>27.89</b> | <b>0.63</b>                                     |

48.13.13 Greenbelt will be developed in 8.210 ha which is about 33.03% of the total project area (24.858 Ha). Greenbelt will be provided with local species with broad leaves and higher canopy and fast growing tree species. Total 20525 nos. of saplings shall be planted.

48.13.14 The proponent has mentioned that there is no court case or violation under EIA Notification to the project or related activity.

48.13.15 Name of the EIA consultant: M/s Anacon Laboratories Pvt. Ltd., Nagpur [Sl. No. 66, List of ACOs with their Certificate / Extension Letter no. Rev. 15, October 11, 2021].

### Observations of the Committee

- 48.13.16 The EAC noted the following:
- i. The land proposed for the project activity is not contiguous which needs to be revisited and layout to be modified.
  - ii. No information has been furnished by the proponent regarding the land acquisition details of 5.6 ha Government land.
  - iii. No tangible action plan has been submitted for gradual phase out ground water abstraction of 1230 KLD.
  - iv. Project specific Hazard Analysis and Risk Assessment has not been carried out.
  - v. Budget proposed for environment protection measures needs to be revisited and enhanced.
  - vi. Action plan submitted to address the issues raised during public hearing is not as per the MoEF&CC O.M. dated 30/09/2020. PP need to submit the revised action plan.
  - vii. Type of submerged Arc Furnace has not been specified.
  - viii. The products envisaged under the Ferro Alloys Plant have not been submitted.
  - ix. Action plan submitted for solid and hazardous waste utilization is not satisfactory.
  - x. PP proposed to use SAF slag for land filling, land filling shall not be permitted.
  - xi. Project benefits have not been quantified in EIA / EMP report.
  - xii. Chapter 11 of EIA report is not as per appendix III of EIA notification, 2006.

### Recommendations of the Committee

- 48.13.17 In view of the foregoing and after deliberations, the Committee recommended to return the proposal in its present form to address the shortcomings enumerated at para no. 48.13.16 above.

48.14 Proposed Expansion of Aluminium Smelter Production Capacity from 16 LTPA to 18 LTPA without increasing the CPP capacity of 1215 MW by **M/s. Vedanta Limited** located at Village- Bhurkamunda, PO Kalimandir, **District Jharsuguda, Odisha** - [Online Proposal No. IA/OR/IND/236646/2017, File No. IA-J-11011/29/2007-IA-II(D)] – **Environment Clearance– regarding**

- 48.14.1 M/s Vedanta Limited, Jharsuguda has made an online application vide proposal no. IA/OR/IND/236646/2017 dated 03/11/2021 along with copy of revised EIA/EMP report and Form–2 seeking Environment Clearance (EC) under the provisions of the EIA Notification, 2006 for the project mentioned above. The proposed project activity is listed at schedule no. 3(a) Metallurgical industries (ferrous & nonferrous) under Category “A” of the schedule of the EIA Notification, 2006 and is appraised at the Central level.

### Details submitted by Project proponent

- 48.14.2 The details of the ToR are furnished as below:

| <b>Date of application</b> | <b>Consideration</b>   | <b>Details</b>                    | <b>Date of accord</b> |
|----------------------------|--|-----------------------------------|-----------------------|
| 03/11/2017                 | 26 <sup>th</sup> meeting held during 11-13 <sup>th</sup> Dec 2017. | Terms of Reference (ToR) granted. | 20/12/2017            |

48.14.3 The project of M/s Vedanta limited located in Bhurkamunda Village, Jharsuguda Tehsil, Jharsuguda District, Odisha State is for setting up of additional 2 LTPA smelter plant for enhancement of production capacity of Aluminium Smelter from 16 LTPA to 18 LTPA.

48.14.4 Environmental Site Settings:

| SNo            | Particulars  | Details  |                  | Remarks  |
|----------------|--|--|------------------|--|
| i.             | Total land   | 834.236 ha   |                  | .-   |
| ii.            | Land acquisition details as per MoEF&CC O.M. dated 7/10/2014.  | Total land is in possession and is used for on-going industrial operations   |                  | -  |
| iii.           | Existence of habitation & involvement of R&R, if any.  | No habitation inside acquired land hence R&R not involved.   |                  | -  |
| iv.            | Latitude and Longitude of the project site.  | <b>Latitude</b>  | <b>Longitude</b> | Topo sheet No. - F44R13, F44R14 & F45M1, F45M2   |
|                |  | 21°49' 43.0''N   | 84° 02' 40.7'' E |  |
|                |  | 21°48' 32.2''N   | 84° 03' 53.7'' E |  |
|                |  | 21°46' 52.5''N   | 84° 03' 2.91'' E |  |
|                |  | 21°48' 6.51''N   | 84°01'48.29'' E  |  |
| 21°49' 3.01''N | 84°01'30.55'' E  |  |                  |  |
| v.             | Elevation of the project site.   | Elevation of project site ranges from 198 m to 216 m AMSL  |                  | -  |
| vi.            | Involvement of Forest land if any  | Nil  |                  | -  |
| vii.           | Water body exists within the project site as well as study area  | <b>Project site:</b><br>Name- Kharkhari Nala<br><br><b>Study area:</b><br>Bhedan River at 0.3 Km South<br>IB River at 8 Km West<br>Hirakud Reservoir at 8 Km South |                  | At confluence of Kharkhari Nala with Bhedan river HFL of Kharkhari Nala is 192.5 m AMSL.   |
| viii.          | Existence of ESZ/ ESA/ national park/ wildlife sanctuary/ biosphere reserve/ tiger reserve/ elephant reserve etc. if any within the study area | Nil  |                  | Following Reserve Forests are present in study area:<br>Katikela RF: (0.1 km, East)<br>Badkhalia RF: (2.9 km, NE)<br>Ghichamura RF (5.8 km, SE)<br>Binjidungri RF (6.5 km WSW)<br>Malda DPF (6.8 km, SW)<br>Mahalmunda RF (7.7 km, SW) |

48.14.5 The existing project was accorded environmental clearance vide letter no. J-11011/29/2007-IA II(I) dated 11<sup>th</sup> June 2008 for 16 LTPA of Aluminium Smelter and CPP of 1350 MW. Consent to Operate for the existing unit was accorded by Odisha State Pollution Control Board vide letter No. 5324 dated 27/03/2021. The validity of CTO is up to 31/03/2022.

48.14.6 Implementation status of the existing EC:

| S No | Facilities                  | Units      | As per EC dated 11/06/2008                                   | Implementation         | Production as per CTO |
|------|-----------------------------|------------|--|------------------------|-----------------------|
| 1    | Aluminium Smelter           | 16 LTPA    | J-11011/29/2007-IA II (I), dated 11 <sup>th</sup> June 2008. | Implemented            | 16 LTPA               |
| 2    | Captive Power Plant 1215 MW | 9 x 135 MW | J-11011/29/2007-IA II (I), dated 11 <sup>th</sup> June 2008. | 9 x 135 MW implemented | 1215 MW               |

48.14.7 The unit configuration and capacity of existing and proposed project is given as below:

| S No | Name              | Existing Units  |               | Proposed Units  |            | Total (Existing + Proposed)  |               |
|------|-------------------|---|---------------|---|------------|--|---------------|
|      |                   | Configuration   | Production    | Configuration   | Production | Configuration  | Production    |
| 1    | Aluminium Smelter | 1864 pots in 6 Potlines, 4 x 35 TPH Green Anode Plant, 5 units of Bake Oven, 1 x 90 & 1 x 160 RPH of Rodding Unit, 3 units of Casting | 16,00,000 TPA | 66 pots in Potline-6, 1 x 60 TPH Green Anode Plant, 1 x 120 RPH Rodding Unit, 1 unit of Casting | 2,00,000   | 1930 pots in 6 Potlines, 4 x 35 TPH & 1 x 60 TPH Green Anode Plant, 5 units of Bake Oven, 1 x 90, 1 x 160 & 1 x 120 RPH Rodding Unit, 4 units of Casting | 18,00,000 TPA |
| 2    | CPP               | 9 x 135 MW  | 1215 MW       | Nil   | Nil        | 9 x 135 MW   | 1215 MW       |

48.14.8 The details of the raw material requirement for the proposed project along with its source and mode of transportation is given as below:

| S No | Raw Material            | Quantity required per annum in TPA |           |           | Source                     | Distance from site (Km) | Mode of Transportation |
|------|-------------------------|------------------------------------|-----------|-----------|----------------------------|-------------------------|------------------------|
|      |                         | Existing                           | Expansion | Total     |                            |                         |                        |
| 1    | Alumina                 | 30,88,000                          | 3,86,000  | 34,74,000 | Captive, domestic & import | 500                     | Road, Rail             |
| 2    | Calcined petroleum coke | 5,93,600                           | 74,000    | 667,000   | Domestic & import          | 564                     | Rail                   |
| 3    | Cryolite                | 3,200                              | 400       | 3600      | Domestic & import          | 564                     | Rail                   |
| 4    | Aluminium fluoride      | 32,000                             | 4,000     | 36000     | Domestic & import          | 564                     | Road                   |
| 5    | Coal tar pitch          | 1,28,000                           | 16,000    | 1,44,000  | Domestic                   | 60                      | Road                   |

48.14.9 The water requirement for the expansion project is estimated as 576 m<sup>3</sup> /day, which is within the permissible drawl quantity of 1,00,065 m<sup>3</sup>/day (40.9 cusecs) surface water

from Hirakud Reservoir is obtained from Department of Water Resources vide Letter No. RC/157/13-26079 dated 31/03/2017.

48.14.10 The power requirement for 18 LTPA Aluminium Smelter is estimated to be 2960 MW out of which additional 400 MW (for 2 LTPA expansion) will be obtained from the 2400 MW TPP.

48.14.11 Baseline Environmental Studies:

Baseline Data collection is from December 2017 to February 2018 and again in March to May, 2021 to revalidate the previous EIA/EMP report.

| Period                               | March, 2021- May, 2021   | Dec 2017 - Feb 2018   |
|--------------------------------------|--|---|
| AAQ parameters at 9 locations        | PM <sub>2.5</sub> = 27.0 to 42 µg/m <sup>3</sup><br>PM <sub>10</sub> = 50.2 to 76.3 µg/m <sup>3</sup><br>SO <sub>2</sub> = 10.9 to 27.2 µg/m <sup>3</sup><br>NO <sub>x</sub> = 12.9 to 32 µg/m <sup>3</sup><br>CO = 251.6 to 430.4 µg /m <sup>3</sup>  | PM <sub>2.5</sub> = 11.3 to 26.4 µg/m <sup>3</sup><br>PM <sub>10</sub> = 27.1 to 63.5 µg/m <sup>3</sup><br>SO <sub>2</sub> = 8.6 to 25 µg/m <sup>3</sup><br>NO <sub>x</sub> = 10.4 to 27.1µg/m <sup>3</sup><br>CO = 151 to 360 µg /m <sup>3</sup> |
| AAQ modelling (Incremental GLC)      | Max. Incremental GLC:<br>PM <sub>10</sub> = 0.852 µg/m <sup>3</sup><br>PM <sub>2.5</sub> = 0.51 µg/m <sup>3</sup><br>SO <sub>2</sub> = 8 µg/m <sup>3</sup><br>NO <sub>x</sub> = 6.88 µg/m <sup>3</sup><br>Fluorides = 0.078 µg/m <sup>3</sup><br>B(a)P = 0.00008 µg/m <sup>3</sup>   | -   |
| Ground water quality at 8 locations  | pH: 6.73 to 7.43, Total Hardness: 58 to 92 mg/l, Chlorides: 18 to 41 mg/l, Fluoride: 0.12 to 0.31 mg/l. Heavy metals are within the limits   | pH: 6.7 to 7.4, Total Hardness: 91 to 241 mg/l, Chlorides: 18.6 to 64.5 mg/l, Fluoride: 0.2 to 0.5 mg/l. Heavy metals are within the limits   |
| Surface water quality at 8 locations | pH: 6.74 to 7.36; DO: 6.8 to 7.4 mg/l and BOD: 0.8 to 1.6 mg/l. COD from 4 to 12 mg/l; Total Coliform: 580 to 840 MPN/100  | pH: 6.8 to 8.1; DO: 4.9 to 5.8 mg/l and BOD: <3 mg/l. COD from <5 to 10 mg/l, Total Coliform: 534 to 840 MPN/100  |
| Noise levels                         | Ambient noise reaches 49.7 to 67.9dB(A) during day time and 40.1 to 60.2 dB(A) during night time.  | Ambient noise reaches 37.9 to 59.2dB(A) during day time and 35 to 56 dB(A) during night time.   |
| Traffic assessment study findings    | Traffic assessment study has been made & recorded at selected traffic location, which is towards Bhurkamunda to Jharsuguda route and Jharsuguda to Bhurkamunda route and counts converted to equivalent PCU and found to be 3,741 PCU.   |   |
| Flora & Fauna                        | Schedule I fauna, such as Monitor lizard, Indian Peafowl, & Indian Python are commonly found in the forest. Elephant, Sloth Bear are occasionally reported in the buffer zone of the project site. Site specific Wildlife Conservation Plan has been prepared and duly approved by PCCF (wildlife) & Chief Wildlife Warden, Odisha, vide letter no-4488/7 WL-FD & WLC-32/2021, dated |   |

|  |   |
|--|---|
|  | Bhubaneswar, the 30 <sup>th</sup> April, 2021 with a financial outlay of Rs. 610.894 lakh for its implementation. |
|--|---|

48.14.12 The details of solid and hazardous waste generation along with its mode of treatment/disposal is furnished as below:

| S No | Type of Waste                               | Source                           | Quantity generated (TPA) | Mode of Treatment / Disposal  |
|------|---|----------------------------------|--------------------------|---|
| 1    | Spent pot lining                            | Pot room                         | 45,000 T                 | Disposed to authorized re-processors                                    |
| 2    | Used oil/Spent oil                          | During Maintenance activity      | 562 KL                   | Disposed to Authorized recyclers  |
| 3    | ETP sludge                                  | ETP                              | 585 T                    | Disposed to CHWTSDF   |
| 4    | Anode butt                                  | Carbon Plant                     | 3,37,500 T               | Internally recycled & disposed to Authorized Re-processors              |
| 5    | Aluminium Dross                             | Cast house                       | 39,375 T                 | Internal processing/ recycling and disposed to authorized re-processors |
| 6    | Waste containing Oil                        | Maintenance activity             | 33.75 MT                 | Disposal through HW incinerator   |
| 7    | Tar Containing wastes                       | Bake Oven                        | 225 MT                   | Internal Recycling  |
| 8    | Flue gas dust                               | Carbon Plant                     | 129.375 MT               | Internal Recycling/ Disposed to CHWTSDF                                 |
| 9    | Housekeeping waste                          | Potline, Carbon Plant            | 2250 MT                  | Disposal in SLF/ CHWTSDF/ Internal Recycling                            |
| 10   | Rejected Filter bags (FTP)                  | Potline & Bake Oven              | 39,375                   | Incineration in HW incinerator/ Pots                                    |
| 11   | Rejected ALF <sub>3</sub> bags              | Pot line                         | 39,375                   | Incineration in HW incinerator/ Pots                                    |
| 12   | Asbestos waste                              | (Ladle cleaning and other units) | 6.75 MT                  | Disposal in SLF/ CHWTSDF  |
| 13   | Coke dust                                   | Bake Oven                        | 2025 MT                  | Internal Recycling  |
| 14   | Spent resin                                 | Rectifier & DM plant             | 51.75 KL                 | Disposal in SLF/ CHWTSDF  |
| 15   | Green anode ridge waste                     | Green Anode Plant (GAP)          | 67.5 MT                  | Internal Recycling/ Disposal in SLF/ CHWTSDF                            |
| 16   | Green anode cooling decantation tank sludge | Green Anode Plant                | 6.75 MT                  | Disposal in SLF/ CHWTSDF  |
| 17   | Shot blasting dust                          | Rodding plant                    | 6750 T                   | Disposed to SLF/ CHWTSDF  |
| 18   | Drain cleaning                              | Carbon & pot                     | 281.25 MT                | Disposed to CHWTSDF   |

| S No | Type of Waste          | Source              | Quantity generated (TPA) | Mode of Treatment / Disposal |
|------|------------------------|---------------------|--------------------------|------------------------------|
|      | sludge                 | room                |                          |                              |
| 19   | Ladle cleaning residue | Ladle cleaning Shop | 27,000 MT                | Internal Recycling           |

48.14.13 Public Consultation:

|                                |  |
|--------------------------------|--|
| Details of advertisement given | The press notification indicating date and venue of the public hearing was issued by State Pollution Control Board, Odisha, on 27/08/2020. Notice was published in widely circulated Odia daily 'The Samaj' and English daily 'The Times of India' on 28/08/2020.  |
| Date of public consultation    | 30/09/2020   |
| Venue                          | Government Upper Primary School, Kurebaga, Dalki in Jharsuguda district.   |
| Presiding Officer              | Additional District Magistrate, Jharsuguda   |
| Major issues raised            | <ul style="list-style-type: none"> <li>• Emission of gas &amp; fumes problem</li> <li>• Compensation for crop damage due to emission of gases</li> <li>• Road dust problem due to transport of ash</li> <li>• Employment for local affected people</li> <li>• Training and skill development programme for local youth</li> <li>• Employment for unskilled &amp; illiterate local people</li> <li>• Contractual work to local people</li> <li>• Supply of drinking water</li> <li>• Provision of streetlight in the surrounding villages</li> <li>• Women empowerment</li> </ul> |

Action plan as per MoEF&CC O.M. dated 30/09/2020

**A) Public Hearing**

| Sl. No. | Concerns Raised during Public Hearing                 | Physical Activity & Action plan for FY 2022   | Tentative Budget in Rs. Lacs | Physical Activity & Action plan for FY 2023   | Tentative Budget in Rs. Lacs | Total budget in Rs. lacs |
|---------|---|---|------------------------------|---|------------------------------|--------------------------|
| 1       | Emission of Gas & fumes problem                       | Ordering for Fume Treatment Plant revamping including supply of equipment               | 1100                         | Revamping of Fume Treatment Plant (FTP 1, Smelter 1) by July 2022 and Balance 3 FTPs by March 2023. | 3300                         | 4400                     |
| 2       | Compensation for Crop Damage due to emission of gases | Detailed study w.r.t Crop damage is being carried out by NRRRI for 2 crop cycles        | 50                           | 2nd Crop Cycle Study  | -                            | 50                       |
|         |   | Distribution of 7 Quintal high yield variety of seeds, Fertilizers ( <b>Completed</b> ) |                              | Training to Farmers on best agricultural practices for higher                                       |                              |                          |

| Sl. No.      | Concerns Raised during Public Hearing     | Physical Activity & Action plan for FY 2022  | Tentative Budget in Rs. Lacs | Physical Activity & Action plan for FY 2023   | Tentative Budget in Rs. Lacs | Total budget in Rs. lacs |
|--------------|---|--|------------------------------|---|------------------------------|--------------------------|
|              |   | Training Program to Farmers of 12 Villages   |                              | yield/production  |                              |                          |
| 3            | Road dust problem due to transport of Ash | Construction and Commissioning of dedicated road for truck traffic to avoid entering Sunarimunda village and Jharsuguda town by July 2021 <b>(Completed)</b> | 3100                         | Parking Plaza for 200 trucks entering and leaving the factory premises to be constructed at Brundamal with all facilities and amenities for drivers by Dec 2022 | 197                          | 3297                     |
|              |   | Installation of Wheel Wash System at the entry/exit of Factory premises by Dec 2022  | 80                           | -   | -                            | 80                       |
| 4            | Avenue Plantation & Other Afforestation   | -  | -                            | Plantation & Maintenance of 25000 Saplings outside plant areas in consultation with DFO   | 100                          | 100                      |
| <b>Total</b> |   |  | <b>4330</b>                  |   | <b>3597</b>                  | <b>7927</b>              |

### B) Socio-economic issues

| Sl. No. | Concerns Raised during Public Hearing   | Physical Activity & Action plan for FY 2022   | Tentative Budget in Rs. Lacs | Physical Activity & Action plan for FY 2023   | Tentative Budget in Rs. Lacs | Total budget in Rs. lacs |
|---------|---|---|------------------------------|---|------------------------------|--------------------------|
| 5       | Formation of Environmental committee to address issues related to environment | Committee will be formed in consultation with district administration, SPCB, Local representative & company representative  | -                            | -   | -                            | -                        |
| 6       | Contractual work to local people  | 196 local contracts involving 52 local contractors  | -                            | -   | -                            | -                        |
| 7       | Training & skill development for Local People.                                | Through Project Jeevika to enhance the income of farmers fraternity, covering 5 villages namely Gudigaon, Siriapalli, Keldamal, Bhagipalli, Bhurkamunda to 750 people | 250                          | Trough Project Jeevika to enhance the income of farmers fraternity, covering 5 villages namely Brundamal, Dalki, Katikela, Kumudapalli, Kurebaga to 750 | 250                          | 500                      |

| Sl. No. | Concerns Raised during Public Hearing                    | Physical Activity & Action plan for FY 2022  | Tentative Budget in Rs. Lacs | Physical Activity & Action plan for FY 2023  | Tentative Budget in Rs. Lacs | Total budget in Rs. lacs |
|---------|--|--|------------------------------|--|------------------------------|--------------------------|
|         |  |  |                              | people   |                              |                          |
|         |  | Skill development trainings to 150 numbers of youths through Vedanta Foundation from Banjari, Bhagipalli, Bhurkamunda, Brundamal                               | 45                           | Skill development trainings to 450 numbers of youths through Vedanta Foundation from Dalki, Katikela, Kumudapalli, Sunarimunda, Gudigaon                         | 135                          | 180                      |
|         |  | 5195 persons have been employed from Jharsuguda & Local affected villages  | -                            | -  | -                            | -                        |
|         |  | More than 90% of our unskilled workforce is from Odisha  | -                            | -  | -                            | -                        |
| 8       | Health and establishment of medical college and hospital | Vedanta State of Art - Pathology & Diagnostic Centre at JSG benefiting >2.5 lac population providing services for BPL at free of cost & rest as per CGHS rates | 2000                         | Vedanta State of Art Pathology & Diagnostic Centre at Laikera benefiting >2.5 lac population providing services for BPL at free of cost & rest as per CGHS rates | 2000                         | 4000                     |
|         |  | COVID-19 initiatives for communities (distribution of ration, mask in large scale to community & frontline workers and Vaccine)                                | 30                           | COVID-19 initiatives for communities (distribution of ration, mask in large scale to community & frontline workers and Vaccine)                                  | 20                           | 50                       |
|         |  | Supporting district COVID-19 Hospital - 100 bed + ventilators + life saving equipment  | 250                          | Supporting district COVID-19 Hospital - 100 bed + ventilators + lifesaving equipment   | 50                           | 300                      |
|         |  | COVID-19 support at state level  | 450                          | COVID-19 support at state level  | 50                           | 500                      |
| 9       | Supply of Drinking water                                 | Drinking water supply through Overhead tank and pipelines in Banjari village to approx. 300 House Holds.   | 30                           | Drinking water supply in Siriapalli, Kurebaga to approx. 600 Households  | 70                           | 100                      |
| 10      | Provision of streetlights in surrounding villages        | Streetlights (including solar streetlights in 10 villages) 50 numbers in villages Orampada, Banjari, Tharkimal, Bhagipalli, Bhurkamunda                        | 25                           | Streetlights (including solar streetlights in 10 villages) 50 numbers in villages Brundamal, Kurebaga, Kumudapalli, Gudigaon, Siriapalli                         | 25                           | 50                       |
| 11      | Road & Peripheral Development                            | Construction of RCC road 700 m & drainage facilities in Banjari village  | 100                          | Construction of RCC road 1300 m & drainage facility in Tharkimal village   | 200                          | 300                      |

| Sl. No.      | Concerns Raised during Public Hearing              | Physical Activity & Action plan for FY 2022   | Tentative Budget in Rs. Lacs | Physical Activity & Action plan for FY 2023  | Tentative Budget in Rs. Lacs | Total budget in Rs. lacs |
|--------------|--|---|------------------------------|--|------------------------------|--------------------------|
|              |  | Cleaning/renovation of community ponds 17 numbers   | 43                           | Cleaning/renovation of community ponds 23 numbers  | 57                           | 100                      |
|              |  | Construction & Renovation of Community Centers/Place of worship/ Public gathering places around 4 core villages Kurebaga, Kherual, Brundamal, Bhurkamunda | 100                          | Construction & Renovation of Community Centers / Place of Worship / Public gathering places around 6 core villages Banjari, Buromal, Badmal, Tharkimal, Gudigaon, Katikela | 160                          | 260                      |
| 12           | Education & Establishment of English Medium School | Partnering with State Govt. through "Mo School Abhiyaan" covering 4 Govt. Schools at Jharsuguda   | 80                           | -  | -                            | 80                       |
|              |  | Renovation of 50 anganwadi for Nandghars covering 35 communities  | 200                          | Renovation of 50 anganwadi for Nandghars covering 35 communities   | 200                          | 400                      |
|              |  | Renovation of 10 school buildings + toilets   | 100                          | Renovation of 10 school buildings + toilets  | 100                          | 200                      |
|              |  |   | -                            | Developing 5 mini-science centre benefiting more than 1000 children  | 60                           | 60                       |
| 13           | Women Empowerment                                  | Strengthening of SHG & promoting income generation activities through Subhalaxmi Cooperative Society - 5K members in 35 communities                       | 300                          | Strengthening of SHG & promoting income generation activities through Subhalaxmi Cooperative Society - 5K members in 35 communities  | 300                          | 600                      |
| <b>Total</b> |  |   | <b>4303</b>                  |  | <b>3377</b>                  | <b>7680</b>              |

48.14.14 The capital cost of the expansion project is Rs. 1240 Crores and the capital cost for environmental protection measures is proposed as Rs. 96.16 Crores. The annual recurring cost towards the environmental protection measures is proposed as Rs 5.80 Crores. The employment generation from the proposed expansion is 800 (250-direct & 550-indirect). The details of cost for environmental protection measures are as follows:

| Sl. No. | Description of Item                       | Existing (Rs. In Crores) |                |
|---------|---|--------------------------|----------------|
|         |   | Capital Cost             | Recurring Cost |
| i.      | Air Pollution Control/Noise               | 33.65                    | 3.20           |
| ii.     | Water Pollution Control                   | 55.50                    | 2.60           |
| iii.    | Noise Management                          | 0.90                     | -              |
| iv.     | Wildlife Conservation Plan Implementation | 6.11                     | -              |
|         | <b>Total</b>                              | <b>96.16</b>             | <b>5.80</b>    |

In addition to above EMP cost, an additional budgetary provision has been made to address the issues raised during Public Hearing as mentioned below:

- a) Budget to address Environmental issues - Rs. 79.27 Crore.
- b) Budget to address Socio-economic issues - Rs. 76.80 Crore

48.14.15 Greenbelt has been developed in 275.29 ha which is 33% of the total project area. Local and native species have been planted with a density of 2500 trees per hectare. Total no. of 6,97,160 trees/saplings have been planted in 275.29 hectares within the industrial complex and ash pond area.

48.14.16 Summary of violation under EIA, 2006/court case/show cause/direction if any, related to the project under consideration.

- W.P. (C) 24789 of 2020 (Subrat Bhoi and Anr vs State of Odisha and Ors.)  
One Writ Petition was filed by Subrata Bhoi & others before the Hon'ble Orissa High Court on 24/09/2020 praying for deferring the public hearing scheduled on 30/09/2020 for the purpose of expansion of aluminium smelter from 16 LTPA to 18 LTPA. However, The Hon'ble High Court of Odisha disposed off the case by asking the petitioners to make a representation before the Collector, Jharsuguda. The Collector, after considering the said representation, passed an order dated 18.10.2020 in this matter holding, inter-alia that 'the hearing conducted on 30.09.2020 with regard to the proposed expansion of Aluminium Smelter at Bhurkamunda is considered smooth and complete.
- Show Cause Notice  
Under Section "5" of Environment (Protection) Act, 1986, a Show cause notice has been issued for non-compliance of stipulated Environmental Conditions vide F. No. J-11011/29/2007-IA.II(I) dated 01/09/2021 for which reply has been submitted vide letter No. VL/MOEF/006/2021-027 dated 29/09/2021 and additional action taken report submitted vide VL/MOEF/006/2021-031 on 23/10/2021.

48.14.17 Name of the EIA consultant: Originally the EIA Report was prepared by M/s. Vimta Labs. The consultant was changed by project proponent to M/s GlobalTech Enviro Experts Pvt. Limited, Bhubaneswar [S No. 99, List of ACOs with their Certificate / Extension Letter no. Rev. 15, October 11, 2021].

#### **Certified compliance report from Regional Office**

48.14.18 The Status of compliance of earlier EC was obtained from Regional Office of MoEF&CC, Bhubaneswar vide letter no.101-405/EPE/1620 dated 24/12/2020 in which some non-compliances were detected and pointed out. Action Taken Report was submitted by Vedanta Limited to MOEF&CC, Regional Office on 05/01/2021. Based on the action taken report submitted, the Regional Office issued another examination report vide Letter No. 101-405/EPE/91 dated 18/01/2021 mentioning that the conditions may be treated as complied or are in the process of compliance. The Integrated Regional Office, MoEF&CC, Bhubaneswar issued another examination of reply vide Letter No. 101-405/EPE/1335 dated 27/10/2021 mentioning that all the conditions have been complied with.

The details of the observations made by RO in the report dated 27.10.2021 along with its re-assessment/ present status is given as below.

| Sl. No. | Non-compliances details  | Observation of RO (abridged)  | Condition no. |                              | Re-assessment by RO                  |
|---------|--|---|---------------|------------------------------|--------------------------------------|
|         |  |   | EC date       | Specific                     |                                      |
| 1       | The fluoride consumption in the Smelter Plant is presently at 10.78 Kg/T Al, which is not in compliance to Charter on Corporate Responsibility for Environment Protection (CREP) guideline. Fluoride consumption shall be brought down to CREP standards of less than 10 kg/T. | The Project authorities have initiated action for reduction in the fluoride consumption by increasing the proportion of low sodium alumina. By this, it is contemplated by the project that the fluoride consumption would come down to 9.78 Kg/T from the present value of 10.78 Kg/T Al by Dec 2021. Further, as per action plan with implementation schedule, the project is to achieve a gradual decrease in the fluoride consumption over the next two years and finally achieve 8.88 Kg/T of Al by end of April 2023  | 11/06/2008    | Specific condition vi & xvii | The condition has been complied with |
| 2       | Utilization of spent pot lining waste by the cement and steel industries are yet to be implemented.  | As reported by the project authorities that SPL generated is being sent to an agency M/s Green Energy Resources, which is authorized for handling and recycling Hazardous Wastes for detoxification of SPL. This is in accordance with the SOP issued by CPCB. After detoxification, the agency in turn would send the material to various industries including cement and steel industries for its utilization. From the action plan, it is noted that the project has contemplated the utilization of SPL and the project is to achieve complete utilization of all the stock of SPL by end of Sept 2023. | 11/06/2008    | Specific condition ix        | The condition has been complied with |
| 3       | Project proponent has only achieved green belt development in 27% of the total area as against the 33% requirement.  | The project has carried out plantation of 3,32,893 saplings, which have been procured from the nurseries of OFDC, Jharsuguda and have planted over an area of 46.24 Ha within the industrial complex and around the ash pond. The density of plantation within the industrial complex is also undertaken. All this has been undertaken to achieve green belt of more than 27%.  | 11/06/2008    | Specific condition xiii      | The condition has been complied with |
| 4       | Rainwater harvesting has   | From the report, it is noted that   | 11/06/2008    | Specific                     | The                                  |

| Sl. No. | Non-compliances details  | Observation of RO (abridged)  | Condition no. |                        | Re-assessment by RO                  |
|---------|--|---|---------------|------------------------|--------------------------------------|
|         |  |   | EC date       | Specific               |                                      |
|         | not been carried out at the site by stating that the ground water table is high in the area and establishment of rainwater harvesting structures may lead to flooding in the area. | developing rainwater harvesting recharge structures especially by the industries which fall under red category for which aluminium smelter is one of them, is not recommended as per CGWA guidelines issued in Sept 2020. However, as a measure of water conservation and re-use the project authorities have developed facilities for roof top rainwater harvesting system which are seven in number within the complex with a total capacity of harvesting 10000 cubic meter water. One of the facilities have been commissioned, the rest 6 numbers of rainwater harvesting are to be completed by Nov 2021, so as to facilitate rainwater harvesting from next monsoon season.                                |               | condition xv           | condition has been complied with     |
| 5       | Prior permission from the State Forest Department regarding impact of the existing project has been obtained till date.  | It is noted that the project authorities have submitted the site-specific wildlife conservation plan to PCCF wildlife and Chief Wildlife Warden which has been approved by the authority on 30.04.2021 with a financial outlay of Rs. 610.894 lakhs to be spent for implementation by Forest department (Both Jharsuguda and Sambalpur Forest division) for this plan. Out of this amount, Rs. 530.904 Lakhs has already been deposited with DFO, Jharsuguda on 17.05.2021 towards the implementation of the Wildlife Conservation Plan for a period of 10 years. It is also stated that the mitigation measures for balance amount of Rs.79.99 lakhs will be executed by M/s Vedanta Ltd directly by March 2022. | 11/06/2008    | Specific condition xix | The condition has been complied with |
| 6       | Significant quantity of legacy ash stocks is still stored in the ash pond located at three different locations in the vicinity of the project site. No effort has been taken to    | From the report submitted, it is noted that the project authorities have been utilizing 115% Fly Ash utilization from the year 2017-18 onwards. It is also noted that there are 3 no. of Ash Ponds currently  |               |                        | The condition has been complied with |

| Sl. No. | Non-compliances details   | Observation of RO (abridged)   | Condition no. |          | Re-assessment by RO                  |
|---------|---|--|---------------|----------|--------------------------------------|
|         |   |  | EC date       | Specific |                                      |
|         | quantify the legacy ash stocks and utilize the same.  | operational at Katikela, Kurebaga and Siriaplli catering to both CPP 1215 MW and TPP 2400 MW. It is also submitted by the project authorities that the ash being sent for utilization is stored/disposed to Ash Ponds by sending it through High Concentration Slurry Disposal (HCSD) system. Around 127.45 Lakh MT of Legacy Ash is stored in the Ash ponds for which the utilization is targeted to be completed within next 5 years. The project authorities have submitted and 5 year action plan for the fly ash being generated presently and also stored as legacy ash which is to be completed by the year 2026. |               |          |                                      |
| 7       | SLF is provided inside the smelter complex. SLF is being implemented in two phases. Phase I of 5000 m3 capacity started in 2010 was capped in Sept 2013. Phase I of SLF is now in operation. It started in May 2014 and has 5285 m3 space. No details of the material filled in SLF or the capacity available were provided. No information on plan for post expansion of SLF capacity once the Phase II site is filled shall be furnished. | In the action taken report, the project authorities have submitted that no further expansion of SLF is required as all the wastes are being sent to RAMKY TSDF located at Sukinda. It is also submitted that the disposed in this SLF is proposed to be evacuated and disposed to authorized agency for detoxification.  |               |          | The condition has been complied with |
| 8       | There are three ash ponds sites in operation and PP has proposed to acquire large area for ash disposal dn, spite of new Fly Ash notification to utilize 100 % ash. Further, PP mentioned that they were utilizing 100 % Fly ash since 2018 and the pond ash shall be liquidated in next - five years. In view of this, seeking additional land for ash disposal found to   | It is submitted by the project authorities that a proposal for acquiring additional land for ash pond to be located at Gudigaon village has been approved by MoEF&CC in 2018 Amendment to EC for 2400 MW TPP (not for the aluminium smelter). The land has already been acquired by the project. It is submitted by them the ash pond has not yet been developed at this location and there is no plan to develop in future  |               |          | The condition has been complied with |

| Sl. No. | Non-compliances details | Observation of RO (abridged) | Condition no. |          | Re-assessment by RO |
|---------|-------------------------|------------------------------|---------------|----------|---------------------|
|         |                         |                              | EC date       | Specific |                     |
|         | be not justifiable.     |                              |               |          |                     |

48.14.19 The project proponent had earlier applied for EC vide proposal no. IA/OR/IND/222980/2017 dated 03/08/2021. The project was considered during 42<sup>nd</sup> meeting of the Re-constituted EAC (Industry-I) held on 12 – 13<sup>th</sup> August, 2021 wherein the Committee, after deliberations, recommended to return the proposal in present form. The observations and recommendations of the committee during the 42<sup>nd</sup> meeting are as follows:

**Observations of the Committee during 12 – 13<sup>th</sup> August, 2021 meeting:**

48.14.20 The Committee observed the following:

- i. The 16 LTPA smelter with 1215 MW CPP is in operation since 2008. The 2400 MW coal based TPP established through separate EC adjacent to the smelter complex is in operation since 2010.
- ii. No tangible effort has been taken by the proponent to comply with the following EC conditions even after the lapse of 13 years of operation.
  - The fluoride consumption in the Smelter Plant is presently at 10.78 Kg/T Al, which is not in compliance to Charter on Corporate Responsibility for Environment Protection (CREP) guideline. Fluoride consumption shall be brought down to CREP standards of less than 10 kg/t.
  - Utilization of spent pot lining waste by the cement and steel industries are yet to be implemented.
  - Wastewater is being discharged outside the plant premises during monsoon season.
  - Project proponent has only achieved green belt development in 27% of the total area as against the 33% requirement.
  - Rain water harvesting has not been carried out at the site by stating that the ground water table is high in the area and establishment of rain water harvesting structures may lead to flooding in the area.
  - Prior permission from the State Forest Department regarding impact of the existing project has been obtained till date.

In addition to the above, PP also yet to comply with the following:

- Significant quantity of legacy ash stocks is still stored in the ash pond located at three different locations in the vicinity of the project site. No effort has been taken to quantify the legacy ash stocks and utilize the same.
- SLF is provided inside the smelter complex. SLF is being implemented in two phases. Phase I of 5000 m<sup>3</sup> capacity started in 2010 was capped in Sept 2013. Phase II of SLF is now in operation. It started in May 2014 and has 5285 m<sup>3</sup> space. No details of the material filled in SLF or the capacity available were provided. No information on plan for post expansion of SLF capacity, once the Phase II site is filled shall be furnished.
- There are three ash ponds sites in operation and PP has proposed to acquire large area for ash disposal in spite of new Fly Ash notification to utilize 100 % ash. Further, PP mentioned that they were utilizing 100 % Fly ash since 2018 and the pond ash shall be liquidated in next five years. In view of this, seeking additional land for ash disposal found to be not justifiable.

- iii. Kharkhari Nala passes in between the boundary of smelter-1 and smelter-2 and joins Bheden River towards southwest of plant premises. The HFL of Kharkhari Nala is 192.5 m, above mean sea level near confluence of Kharkhari Nala with Bheden river and as per the hydrogeology study conducted, the site comes under no risk zone as the elevation at plant site ranges between 198 – 216 m above mean sea level.
- iv. Plantation all along the periphery of the project site is hardly visible from the KML file and photographs made available by the proponent.
- v. EMP cost of 77.3 Cr for a CAPEX of 1240 Cr in Aluminium Smelter is far less (6.2%) than the World benchmarks of 15-20 % of CAPEX on Environment Management.
- vi. Performance monitoring of Pollution Control Devices is not included in monitoring schedule.
- vii. EMP budget in Table 8.25 is generic and not monitorable. The table shall be resubmitted.
- viii. Mitigation measures given in Table 10.2 are generic and not quantified. The 6.2 % of CAPEX cost towards mitigation measures seems to be adhoc as stated in the document.
- ix. Baseline data collected by the consultant organizations (M/s. Vimta Labs and M/s. Global tech) are not comparable.
- x. As per Ministry's O.M. No. J-11015/286/2007-IA.II(I) dated 7/2/2020, any specific non-compliance singled out while the project is being appraised by the EAC, the concerned sector shall issue Show Cause Notice

**Recommendations of the Committee during 12 – 13<sup>th</sup> August, 2021 meeting:**

- 48.14.21 In view of the foregoing and after detailed deliberations, the Committee recommended the following:
- i. Show Cause Notice shall be issued to the proponent for not complying with the conditions prescribed in the EC letter dated 11/6/2008.
  - ii. Proposal to be returned in its present form and the same would be considered by the EAC after the compliance to the existing EC conditions has been achieved by the Project Proponent.
- 48.14.22 The project proponent has submitted the revised application vide proposal no. IA/OR/IND/236646/2017 dated 03/11/2021 and the proposal is placed before the REAC (Industry-I) in its 48<sup>th</sup> meeting held on 11 – 12<sup>th</sup> November, 2021.
- 48.14.23 The Ministry as well as the EAC members was in receipt of a public representation alleging that the unit is disposing of the fly ash in the nearby agricultural fields and causing pollution. In this regard, a case bearing no. 10/2021 is pending before the Hon'ble NGT, Eastern Zone.
- 48.14.24 The observations and recommendations of the committee is as follows:

**Observations of the Committee**

- 48.14.25 The Committee observed the following:
- i. BOD in Surface Water quality has been indicated as 0.8 to 1.6 mg/l, the method used for analysis the BOD shall be furnished.

- ii. EAC noted that the public representation mentioned at para 48.14.23 quoted a NGT court case (O.A. 10/2021/EZ) National Green Tribunal Eastern Zone Bench, Kolkata. The case is arising out of disposal of fly ash in the nearby agricultural land by the proponent causing damaging on the agricultural land. As per the Hon'ble NGT Order dated 2/09/2021, the inspection report filed by the Odisha State Pollution Control Board shows several violations of Consent conditions. In this regard, the Hon'ble NGT directed to file an affidavit inter-alia the Environmental Compensation assessed on account of damage caused to the environment.
- iii. PP did not provide the information of said court case in Form 2 application and also not disclosed during the presentation. EAC opined to seek an explanation from the PP in this regard.
- iv. Project proponent has undertaken a study on the impact of the project on nearby agricultural fields.
- v. Show Cause Notice was issued to the unit 1/09/2021 and as per the reply furnished, the unit is yet to comply with the following. Further, MoEF&CC is yet to take final view on the SCN issued to the unit.
  - a. Current fluoride emission is at 10.78 Kg/T Al production and sought time till December 2021 to achieve reduced level.
  - b. SPL refractory stock is 85,108 MT which is being stored in covered sheds as there is no mechanism is in place for disposal of SPL refractory stock.
  - c. Ash stock of 124 Lakh Metric Ton is unutilized and sought additional time for its liquidation by 31/03/2027.
  - d. Only one Roof Top Rainwater Harvesting (RTRW) has been commissioned and 6-RTRH, the construction activities are reported to be under progress.
  - e. Green belt development covering 33% of the project area will be achieved by Dec, 2021.

#### **Recommendations of the Committee**

- 48.14.26 In view of the foregoing and after detailed deliberation, the committee recommended to defer the proposal and sought for following additional information.
- i. Ministry may forward the public representation to the project proponent. PP shall submit the point wise reply to the said public representation received on 12/11/2021 along with the requisite supporting documents. The details of environmental compensation made if any, shall also be submitted.
  - ii. Project proponent shall explain the reasons for not disclosing the court case details in Form 2 application (or) during the EAC presentation.
  - iii. PP shall submit the recommendation of interim report on impact of project on the crop by the plant and action plan to mitigate the impact on crop damage shall be submitted.
  - iv. PP shall submit the action plan for the liquidation 85000 MT SPL refractory waste inter-alia standard operating procedure for disposal of the same.
  - v. BOD in Surface Water quality samples have been reported as 0.8 to 1.6 mg/l, the method used for analysis the BOD parameter shall be furnished.

- 48.15 Expansion of Integrated Steel Plant from 9.6 to 15.6 MTPA (Liquid Steel) by **M/s. Arcelormittal Nippon Steel India Limited** located at Hazira Village, Chorasi Tehsil, **District Surat, Gujarat**. [Online Proposal No. IA/GJ/IND/231036/2021; File No.: IA-J-

11011/44/2004-IA.II (I) – **Reconsideration for grant of Terms of Reference based on ADS reply – regarding.**

48.15.1 M/s. Arcelormittal Nippon Steel India Limited has made an online application vide proposal no. IA/GJ/IND/231036/2021, dated 06/10/2021 along with the application in prescribed format (Form- I), Copy of Pre-feasibility report and proposed ToRs for undertaking detailed EIA study as per EIA Notification, 2006 for the project mentioned above. The proposed project activity is listed at schedule no 3(a) Metallurgical Industries (ferrous & non-ferrous), 1(d) Thermal Power Plant and 4(b) Coke oven plants under Category “A” of the schedule of the EIA Notification, 2006 and appraised at Central Level.

**Details submitted by Project proponent**

48.15.2 The project of M/s. Arcelormittal Nippon Steel India Limited is located in Hazira Village, Choryasi Tehsil, District Surat, Gujarat is for Expansion of Integrated Steel Plant from 9.6 to 15.6 MTPA (Liquid Steel).

48.15.3 Environmental site settings:

| S No | Particulars  | Details   |
|------|--|---|
| 1    | Total land   | Total land: 884.88 ha. (about 885 ha)<br>Industrial: 805 ha.<br>Private: 14.15 ha<br>Forest land 65.73 ha   |
| 2    | Existence of habitation & involvement of R & R, if any.          | Nil   |
| 3    | Latitude and Longitude of the project site                       | 21° 6' 43.72''N<br>72° 38' 40.29''E   |
| 4    | Elevation of the project site                                    | 4 - 6 m AMSL  |
| 5    | Involvement of Forest land if any.                               | Yes, 65.73 ha.<br><br>Stage II Forest Clearance Received for 65.73 ha land area.<br>[Stage II FC for diversion of 27.02 ha vide letter no. 6-GJC018/2015-BHO/048 dated 16/03/2021 and diversion of 38.71 ha vide letter no. 6-GJC047/2012-BHO/049 dated 16/03/2021]   |
| 6    | Water body exists within the project site as well as study area. | <b><u>Project site:</u></b> Nil<br><br><b><u>Study area:</u></b><br>Arabian sea: 1 Km/ South<br>Tapi River: 0.5 km/ East<br><br><b><u>Details of Ponds</u></b><br>Hazira village pond: 2.2km/ South<br>Suvali village pond: 3.3 km/ NNW<br>Mora village pond: 2.7 km/ North<br>Junagam village pond: 1.4 km/ West |

| S No | Particulars  | Details  |
|------|--|--|
|      |  | Bhesan village pond: 12.5 km/ NE<br>Tapi River: 0.5 km/ East<br>Mindhola River tributary: 12.02 km/ SE |
| 7    | Existence of ESZ/ESA/national park/wildlife sanctuary/ biosphere reserve/ tiger reserve/ elephant reserve etc. if any within the study area. | Nil.   |

48.15.4 The existing project was accorded environmental clearance vide no. EC NO. J-11011/381/2014-IA.II (I) dated 09/03/2016. Consent to Operate for the existing unit was accorded by State Pollution Control Board vide no. and dates as given below:

| CTO No.   | Date of issue | Validity up to |
|---|---------------|----------------|
| GPCB/CCA-SRT-1082(5) ID 28839 (Pipe Mill)         | 07/04/2020    | 31/12/2024     |
| GPCB/CCA-SRT-1162 (2) ID 22968 (Plate Mill)       | 07/04/2020    | 31/12/2024     |
| AWH 103579 (Power Plant)                          | 19/08/2019    | 31/03/2024     |
| GPCB/CCA-SURAT-1190(6)/ID 14186 (Conarc division) | 20/05/2020    | 31/12/2024     |
| GPCB/CCA-SURAT-340 (15)/ID 20680(HRC Division)    | 07/04/2020    | 31/12/2024     |

48.15.5 The unit configuration and capacity of existing and proposed project along with the implementation status is given as below:

| S.No | Plant / Facility                      | As per EC dated :09.03.2016 ( A=A1+A2)        |                        |   |          |                     |          |            | Proposed Expansion (B) |   | Final after expansion (A+B) |   | Remarks |
|------|---------------------------------------|---|------------------------|---|----------|---------------------|----------|------------|------------------------|---|-----------------------------|---|---------|
|      |                                       | Total (A)                                     |                        | Implemented (A1)                              |          | Un-implemented (A2) |          | As per CTO | Config                 | Capacity                                      | Config                      | Capacity  |         |
|      |                                       | Config.                                       | Capacity               | Config  | Capacity | Config              | Capacity | Capacity   |                        |   |                             |   |         |
| 1    | HBI Plant (DRI Mod I to VI) (in MTPA) | Mod I-IV: 4.0<br>Mod:V - 1.98<br>Mod VI: 1.85 | 7.83<br>(- 4.0* =3.83) | Mod I-IV: 4.0<br>Mod:V - 1.98<br>Mod VI: 1.85 | 7.83     | -                   | 7.83     | 0          | 0                      | Mod I-IV: 4.0<br>Mod:V - 1.98<br>Mod VI: 1.85 | 7.83                        | * Earlier planning was to remove HBI Modules (1 to 4) totalling 4 MTPA and replace it with Blast Furnace of 3.0 MTPA. This could not be implemented due to fund constraints and legal cases at the NCLT.<br><br>*Original capacity prior to EC 2016 was 7.83 MTPA only. It is now proposed to maintain this original capacity. CTO has been sanctioned for 7.83 MTPA. |         |

| S.No | Plant / Facility                | As per EC dated :09.03.2016 ( A=A1+A2)   |          |  |          |                     |          |            | Proposed Expansion (B)                       |          | Final after expansion (A+B)  |          | Remarks   |
|------|---------------------------------|--|----------|--|----------|---------------------|----------|------------|--|----------|--|----------|---|
|      |                                 | Total (A)  |          | Implemented (A1)   |          | Un-implemented (A2) |          | As per CTO | Config                                       | Capacity | Config   | Capacity |   |
|      |                                 | Config.  | Capacity | Config   | Capacity | Config              | Capacity | Capacity   |  |          |  |          |   |
| 2    | Blast Furnace (BF)<br>(in MTPA) | 1 x 2.04<br>(2200 m3)<br>1 x 3.0   | 5.04     | 1 x 2.04   | 2.04*    | 1 x 3.0             | 3.0#     | 2.04       | 1 x 0.96*<br>+<br>2 x 4.0<br>(~4500 m3 each) | 8.96     | 1 x 3.0<br>2 x 4.0   | 11.0     | * Existing operational BF of capacity 2.04 MTPA is proposed to be upgraded to 3.0 MTPA.<br># 1 x 3.0 MTPA couldn't be implemented due to fund constraints and legal cases at the NCLT, now dropped.<br>2 nos. of new BFs with 4.0 MTPA capacity each is proposed. |
| 3    | Sinter Plant                    | 1x 1.48 (1 x 120 m2)<br>2 x 3.5 (~ 325 m2 each)  | 8.48     | 1 x 1.48   | 1.48     | 2 x 3.5             | 7.0*     | 1.48       | -  | -        | 1x 1.48 (1 x 120 m2)<br>2 x 3.5 (~ 325 m2 each)  | 8.48     | * 7.0 MTPA plant could not be implemented due to fund constraints and legal cases at the NCLT.<br>Now, will establish the 7.0 MTPA Plant approved vide 2016 EC. (It will comprise of 02 number plants).   |
| 4    | Coke Oven (Recovery Type)       | 1 x 1.20<br>1 x 1.35   | 2.55     | 2 x 59 Ovens   | 1.35#    | -                   | 1.20*    | -          | 4 x 59 Ovens                                 | 3.05     | 2 x 59 Ovens<br>4 x 59 Ovens   | 4.4      | # Under implementation<br>* 1.2 MTPA plant could not be implemented due to fund constraints and legal cases at the NCLT.<br>*2016 EC approved for 2.55 MTPA, AMNSI is proceeding only with 1.35 MTPA since 1.2 MTPA originally secured in 2010 EC has now lapsed. |
| 5    | Air Separation Plant (Nm3/Hr)   | 1 X 343 TPD<br>1 X 257 TPD<br>1 X 785 TPD<br>3 X 1714 TPD<br>1 X 700 TPD (Only oxygen) | 424,744  | 1 X 343 TPD<br>1 X 257 TPD<br>1 X 785 TPD<br>3 X 1714 TPD<br>1 X 700 TPD (Only oxygen) | 360,544  | 1 X 2200 TPD*       | 64,200*  | 360,544    | -  | -        | 1 X 343 TPD<br>1 X 257 TPD<br>1 X 785 TPD<br>3 X 1714 TPD<br>1 X 700 TPD<br>1 X 2200 TPD | 424,744  | * 64200 Nm3/hr plant will be established as per 2016 EC   |

| S.No | Plant / Facility         | As per EC dated :09.03.2016 ( A=A1+A2)           |          |                      |          |                     |          |  | Proposed Expansion (B) |          | Final after expansion (A+B)                  |          | Remarks  |
|------|--------------------------|--|----------|----------------------|----------|---------------------|----------|--|------------------------|----------|--|----------|--|
|      |                          | Total (A)  |          | Implemented (A1)     |          | Un-implemented (A2) |          | As per CTO   | Config                 | Capacity | Config                                       | Capacity |  |
|      |                          | Config.  | Capacity | Config               | Capacity | Config              | Capacity | Capacity   |                        |          |  |          |  |
|      |                          | 1 X 2200 TPD                                     |          |                      |          |                     |          |  |                        |          | (Only oxygen)                                |          |  |
| 6    | SMS-1 (EAF 4 Nos.)       | 4 x 150 MT Heat size                             | 4.6*     | 4 x 150 MT Heat size | 4.6*     | -                   | 4.6      |  |                        | 0        | 4 x 150 MT Heat size                         | 4.6      | *Earlier planning was to remove 4.6 MTPA EAF -4 nos. and replacing with BOF-3 nos. in its place but that could not be implemented due to fund constraints and legal cases at the NCLT.e Original capacity prior to EC 2016 was 4.6 MTPA only and it is now submitted to retain this original capacity. CTO has been sanctioned for 4.6 MTPA. |
| 7    | SMS-2                    | 4 x 200 MT Heat size                             | 5.0      | 4 x 200 MT Heat size | 5.0      | -                   | 5.0      |  |                        | 0        | 4 x 200 MT Heat size                         | 5.0      |  |
| 8    | SMS-3 (BOF- 3 nos.)      |  | 0        |                      |          |                     | -        | 3 x 350 MT Heat size *                                     |                        | 6.0      | 3 x 350 MT Heat size *                       | 6.0      | New SMS-3 shop of 6.0 MTPA is proposed. * 2 Working + 1 stand by   |
|      | Total SMS                |  | 9.6      |                      | 9.6      | -                   | 9.6      |  |                        | 6.0      |  | 15.6     |  |
| 9    | Corex Plant              | 2 x 0.85   | 1.7      | 2 x 0.85             | 1.7      | -                   | 1.7      | -  | -                      | -        | 2 x 0.85                                     | 1.7*     | Plant will be operated till the proposed expansion is completed. * Thereafter it will be shutdown safely and will be started only in case of any unit going down but maintaining sanctioned production of hot metal.   |
| 10   | Lime Plant (Lime/Dolime) | 1 x 0.45 (4 x 300 TPD)<br>1 x 0.48 (3 x 500 TPD) | 0.93     | 1 x 0.45<br>1 x 0.48 | 0.93     | -                   | 0.93     | 1 x 0.27* (1 x 200 + 1 x 500 TPD)<br>1 x 0.8 (4 x 600 TPD) |                        | 1.07*    | 1 x 0.45<br>1 x 0.48<br>1 x 0.27*<br>1 x 0.8 | 2.0      | *0.27 MTPA proposed in ToR 2021. 0.8 MTPA proposed in this expansion.  |
| 11   | Plate Mill               | 1 x 1.5  | 1.5      | 1 x 1.5              | 1.5      | -                   | 1.5      |  |                        | 0        | 1 x 1.5                                      | 1.5      |  |

| S.No | Plant / Facility                              | As per EC dated :09.03.2016 ( A=A1+A2)                         |          |   |          |                     |          |            | Proposed Expansion (B)  |          | Final after expansion (A+B)                |          | Remarks   |
|------|---|--|----------|---|----------|---------------------|----------|------------|---|----------|--|----------|---|
|      |   | Total (A)  |          | Implemented (A1)                                  |          | Un-implemented (A2) |          | As per CTO | Config  | Capacity | Config                                     | Capacity |   |
|      |   | Config.  | Capacity | Config  | Capacity | Config              | Capacity | Capacity   |   |          |  |          |   |
| 12   | CSP and HRC                                   | 1 x 3.5  | 3.5*     | 1 x 3.5<br>1 x 4.5#                               | 8.0*     | -                   | -        | 8.0        | 1 x 6.0   | 6.0      | 1 x 3.5<br>1 x 4.5#<br>1 x 6.0             | 14.0     | * 3.5 MTPA approved vide 05.07.2010 EC<br># 4.5 MTPA Approved vide 29-05-2008 EC<br>Total 8.0 implemented, but inadvertently mentioned 3.5 MTPA only in 2016 EC |
| 13   | CRM   | 1 x 1.5  | 1.5      | 1 x 1.5<br>1 x 0.54*                              | 2.04*    | -                   | -        | 2.04       | 1 x 2.2<br>1 x 1.0  | 3.2#     | 1 x 1.5<br>1 x 0.54*<br>1 x 2.2<br>1 x 1.0 | 5.24     | * CTO taken for additional 0.54 MTPA from GPCB.<br>#3.2 MTPA proposed in Modification Project, 2021.  |
| 14   | Pipe mill:                                    |  |          |   |          |                     |          |            |   |          |  |          |   |
|      | H Saw Pipes (in MTPA)                         | 1 x 0.15   | 0.15     | 1 x 0.15<br>1 x 0.15*                             | 0.30*    | -                   | 0        | 0.3        |   |          | 1 x 0.15<br>1 x 0.15*                      | 0.30     | 0.15 MTPA as per 2016 EC *CTO taken for additional 0.15 MTPA from GPCB. (0.15+0.15=0.30).   |
|      | L Saw Pipes (in MTPA)                         | 1 x 0.33   | 0.33     | 1 x 0.33  | 0.33     | -                   | 0        | 0.33       |   |          | 1 x 0.33                                   | 0.33     |   |
| 15   | CPP (in MW)                                   | 1 X 475 MW<br>1 X 31 MW<br>1 X 40 MW<br>1 X 10 MW<br>1 X 48 MW | 604      | 1 X 475 MW<br>1 X 31 MW<br>1 X 40 MW<br>1 X 10 MW | 556      | 1 x 48 MW           | 48*      | 556        | 1 X 475 MW<br>1 X 31 MW<br>1 X 40 MW<br>1 X 10 MW<br>1 X 48 MW<br>2 x 100 MW<br>2 x 25 MW | 250 #    |  | 854      | * 48MW to be implemented<br># 2 x 100 MW surplus fuel gas + 2 x 25 MW TRT.  |
| 16   | Waste Heat Recovery based Power Plant (in MW) | 1 x 25 MW<br>1 x 20 MW   | 45       | 1 X 25 MW   | 25       | 1 X 20 MW           | 20*      | 25         | 1x 100 MW CDQ   | 100      | 1 x 25 MW<br>1 x 20 MW<br>1x 100 MW CDQ    | 145      | *20 MW to be implemented<br>1 x 100 MW CDQ based  |
| 17   | Jetty (length in m)                           | 456 m+<br>734 m  | 1190 m   | 456 m +<br>734 m                                  | 1190 m   | -                   | -        | 734 m*     | -   | -        | 456 m +<br>734 m                           | 1190 m   | * 734 and 456 meters capacity was sanctioned in 2006 EC.  |

| S.No | Plant / Facility | As per EC dated :09.03.2016 ( A=A1+A2) |          |                  |          |                     |          |            | Proposed Expansion (B) |          | Final after expansion (A+B) |          | Remarks  |
|------|------------------|--|----------|------------------|----------|---------------------|----------|------------|------------------------|----------|-----------------------------|----------|--|
|      |                  | Total (A)                              |          | Implemented (A1) |          | Un-implemented (A2) |          | As per CTO | Config                 | Capacity | Config                      | Capacity |  |
|      |                  | Config.                                | Capacity | Config           | Capacity | Config              | Capacity | Capacity   |                        |          |                             |          |  |
|      |                  |  |          |                  |          |                     |          |            |                        |          |                             |          | This was implemented although inadvertently mentioned 734 m only in 2016 EC and CTO also mentioned the same 734m length. |

48.15.6 The details of the raw material requirement for the proposed project along with its source and mode of transportation is given as below:

| S No | Raw Material  | Quantity required per annum |            |            | Source   | Distance from site (Approx. Kms)         | Mode of Transportation |
|------|---|-----------------------------|------------|------------|--|--|------------------------|
|      |   | Existing                    | Proposed   | Total      |  |  |                        |
| 1.   | DR Grade Pellets  | 11,823,300                  | 0          | 11,823,300 | AMNSI's Palletization plants located at Vizag and Paradeep | 5200/5750                                | Sea Route              |
| 2.   | BF Grade Pellets  | 5,400,000                   | 6,759,536  | 12,159,536 |  |  |                        |
| 3.   | Calibrated Lump Ore   | 0                           | 127,660    | 127,660    | NMDC mines in Kirandul, Dist. Dantewada, CG                | 450+5200                                 | Rail + Sea Route       |
| 4.   | Iron Ore Fines  | 185,000                     | 3,942,444  | 4,127,444  | Goa, Odisha NMDC mines                                     | 900/5750                                 | Sea Route              |
| 5.   | Coal-PCI-BF   | 408,000                     | 2,036,444  | 2,444,444  | RBCT, SA Australia Japan Poland Russia                     | 7680<br>11053<br>13231<br>16044<br>10245 | Sea Route              |
| 6.   | Coal for Corex  | 2,770,000                   | -2,770,000 | 0          |  |  |                        |
| 7.   | Metallurgical Coal  | 1,957,500                   | 4,501,564  | 6,459,064  |  |  |                        |
| 8.   | Coke  | 1,155,000                   | -1,155,000 | 0          |  |  |                        |
| 9.   | BF and Sinter Grade Flux (Limestone +Dolomite + Pyroxenite + Quartzite) | 690,000                     | 493,715    | 1,183,715  | Dubai and Oman   | 2640/2200                                | Sea Route              |
| 10.  | SMS grade Limestone and Dolomite  | 1,863,000                   | 2,562,564  | 4,425,564  |  |  |                        |

- 48.15.7 The water requirement for the project is estimated as 3,815 m<sup>3</sup>/hr, out of which 3,400 m<sup>3</sup>/hr. of fresh water requirement will be obtained from the River Tapi and remaining requirement of 600 m<sup>3</sup>/hr will be recovered from Effluent Treatment Plant. The Permission for drawl of surface water is obtained from Narmada Water Resources Water Supply and Kalpasar Department vide letter no. 248/2021/1444 dated 27<sup>th</sup> July 2021.
- 48.15.8 The power requirement for the project is estimated as 1573 MW, out of which 810 MW will be obtained from the Captive Power Plant, 243 MW from Third party and 520 MW from Grid.
- 48.15.9 The capital cost of the project is Rs. 35,145 Crores and the capital cost for environmental protection measures is proposed as Rs. 1565 Crores. The employment generation from the proposed project / expansion is direct 1750 and indirect 5250.
- 48.15.10 It has been reported by PP that, there is no violation under EIA Notification, 2006/court case/show cause/direction related to the project under consideration.
- 48.15.11 Name of the EIA consultant: M/s. Kadam Environmental Consultants [Sl. No. 20, List of ACOs with their Certificate no. NABET/EIA/1922/RA0138, valid up to 25/05/2022; Rev. 15, October 11, 2021].
- 48.15.12 Proposed Terms of Reference (**Baseline data collection period: 15<sup>th</sup> March, 2021 – 15<sup>th</sup> June, 2021**):

| S No            | Attributes  | Sampling                               |   | Remarks |
|-----------------|---|--|---|---------|
|                 |   | No. of stations                        | Frequency   |         |
| <b>A. Air</b>   |   |  |   |         |
| a.              | Meteorological parameters<br>Temperature, wind speed, wind direction, Relative humidity, Rainfall, cloud cover  | At Site                                | Continuous for 12 weeks   |         |
| b.              | AAQ parameters<br>PM <sub>10</sub> , PM <sub>2.5</sub> , SO <sub>2</sub> , NO <sub>x</sub> , NH <sub>3</sub> , HC, CO   | 8                                      | 24 hrs twice a week at each station spread over the entire season with gaseous samples being changed six times (at 8-hour intervals). |         |
| <b>B.</b>       | <b>Noise</b>  | 8                                      | 24 Hrs at each location once only   |         |
| <b>C. Water</b> |   |  |   |         |
|                 | Surface water/Ground water quality parameters<br>Ground water parameters as per IS 10500 Standard Limits for drinking water<br>Surface water parameter as per | 8 + 8<br>(Groundwater + Surface water) | Each sample taken once during the monitoring period   |         |

| S No                 | Attributes   | Sampling   |                             | Remarks |
|----------------------|--|--|-----------------------------|---------|
|                      |  | No. of stations  | Frequency                   |         |
|                      | Inland Surface Water (CPCB)  |  |                             |         |
| <b>D. Land</b>       |  |  |                             |         |
| a.                   | Soil quality<br>Porosity, Water Holding Capacity, Permeability, Particle Size Distribution, Texture, Cation Exchange Capacity, SAR, Exchangeable Sodium, Electrical conductivity, pH, Calcium, Magnesium, Sodium, Potassium, Organic carbon, Total Nitrogen, Available potassium | 8  | Each sample taken once only |         |
| b.                   | Land Use   |  | 10 Km Radius Study area     |         |
| <b>E. Biological</b> |  |  |                             |         |
| a.                   | Aquatic  | Aquatic (Phyto, Zoo, Benthos)<br>Terrestrial (Mammals, Avifauna, Herpetofauna) | 10 Km Radius Study area     |         |
| b.                   | Terrestrial  |  |                             |         |
| <b>F.</b>            | <b>Socio-economic parameters</b>   | Nearby villages  | 10 Km Radius Study area     |         |

48.15.13 M/s. Arcelormittal Nippon Steel India Limited made an online application vide proposal no. IA/GJ/IND/231036/2021 dated 06/10/2021. The proposal was considered in 47<sup>th</sup> Re-constituted EAC (Industry- 1) held on 28-29<sup>th</sup> October, 2021. The observations and recommendation is given as below:

**Observations of the Committee during 28-29<sup>th</sup> October, 2021**

48.15.14 The EAC noted the following:

- i. PP has not clarified as to what will be the mode of disposal of RW Treatment sludge.
- ii. There is no information available in PFR on existing modification going on as per TOR of 2021. These units have not been installed so far. The pollution increase due to these units has not reflected in BL data being/going to be collected. There is no mention of cumulative impact to be carried out for facilities which have been accorded standard ToR accorded vide proposal no. IA/GJ/IND/189821/2020 on 08/02/2021.

- iii. Scheme for transport of 20 MTPA cargo to the plant from port and to the port from plant (nearly 3-4 Km) has not furnished in PFR. The breakup of percentage of dry bulk and break bulk cargo is not given. It may be noted that break bulk cargo cannot be handled by belt conveyors.
- iv. 65.73 ha Forest land is required for expansion. Stage II clearance for the same has been taken.
- v. The layout of the plant shows scattered tree plantation. No green belt in planned manner along the plant boundary is visible. PP has not submitted a planned green belt layout.
- vi. MEROS technology for control of dioxins and furan has not been proposed.
- vii. Type of GCP (dry or wet) for BF has not been described.
- viii. Existing plant has only 22 % green belt. After expansion the proposed green belt is only 28 % against the requirement of 33%. Layout clearly indicates that enough land is not available for expansion project for green belt development.
- ix. PFR is giving details of expansion project only. It shall include Jetty and existing ongoing modification and running plant details.
- x. PFR does not give details of locations for relocated facility like Office, training center, Control room, Briquette house etc.
- xi. AAQ stations proposed are inadequate.
- xii. PP has obtained standard ToR on 27/10/2021 from Infra sector vide proposal no IA/GJ/NCP/233331/2021 for Construction of New Jetty (700 m) and Upgradation/ Augmentation of existing Shallow Jetty (456 m & 592 m) to Deep draft Jetty which will catering to the instant expansion proposal of steel plant. Proponent failed to integrate the same in the instant proposal under consideration.
- xiii. PP has sought for waiver of public hearing. As per the Ministry's O.M. No.J-11011/321/2016-IA.II(I) dated 27/04/2018, public hearing exemption is not available for the metallurgical industries even if the project site is located within the industrial estates/parks.

**Recommendations of the Committee during 28-29<sup>th</sup> October, 2021**

48.15.15 In view of the foregoing and after detailed deliberation, the committee recommended to differ the proposal and sought additional information as enumerated under para 48.15.16 above.

48.15.16 The proponent submitted the ADS reply vide letter dated 09/11/2021 as follows:

| S. No. | Observation by Committee   | Reply by AMNSI  |
|--------|--|---|
| i.     | PP has not clarified as to what will be the mode of disposal of RW Treatment sludge.   | Quantity of Raw water treatment sludge generation will be around 3000 MT/year and it will be reused for area levelling purpose in Horticulture. The same has been updated in revised PFR , Page No. 3-55, Table no.3-35 & section No.3.11.1 |
| ii.    | There is no information available in PFR on existing modification going on as per TOR of 2021. These units have not been installed so far. The | Projects coming under Modification are mentioned in the PFR Project description, section 3.6, Page 3-4 to 3-6. In the EIA report, M/s. AMNSI will   |

| S. No. | Observation by Committee   | Reply by AMNSI   |
|--------|--|--|
|        | <p>pollution increase due to these units has not reflected in BL data being/going to be collected. There is no mention of cumulative impact to be carried out for facilities which have been accorded standard ToR accorded vide proposal no. IA/GJ/IND/189821/2020 on 08/02/2021.</p>       | <p>assess the cumulative impact of both modification &amp; expansion projects. Project configuration details submitted by M/s. AMNSI in the ADS reply.</p>   |
| iii.   | <p>Scheme for transport of 20 MTPA cargo to the plant from port and to the port from plant (nearly 3-4 Km) has not furnished in PFR. The breakup of percentage of dry bulk and break bulk cargo is not given. It may be noted that break bulk cargo cannot be handled by belt conveyors.</p> | <p>Raw material from Adani port to plant will be transported through 1.3 Km conveyor along the Surat -Hazira state high way and the same been marked in the layout. The required Right of Way of around 1.3 ha (1300m x 10 m width) from Revenue Department &amp; state highways will be obtained. The basic scheme for raw material transportation by covered conveyors has been submitted by M/s. AMNSI in the ADS reply. Break bulk cargo (Finished Goods) will be dispatched maximum through existing captive jetty &amp; EBTL terminal. For balance cargo if any, through Adani Port, National highways (NH-6) route will be used. The same has been mentioned in the revised PFR, section 4.1.1, page No.4-2. It is expected to move - 5% of 20 MTPA (-1 MTPA) as break bulk cargo</p> |
| iv.    | <p>65.73 ha Forest land is required for expansion. Stage II clearance for the same has been taken.</p>   | <p>Copy of Stage II forest clearance for diversion of 27.02 ha vide letter no. 6-GJC018/2015-BHO/048 dated 16/03/2021 and diversion of 38.71 ha vide letter no. 6-GJC047/2012-BHO/049 dated 16/03/2021 is submitted by M/s. AMNSI in the ADS reply.</p>  |
| v.     | <p>The layout of the plant shows scattered tree plantation. No green belt in planned manner along the plant boundary is visible. PP has not submitted a planned green belt layout.</p>   | <p>Greenbelt plan has been revised in line with CPCB guidelines and GB in the western boundary along the NH -6 will be intensified further as well as GB along Hazira village side will also be intensified. Proposed to plant additional 4,42,571 trees in consultation with DFO.</p>   |

| S. No. | Observation by Committee  | Reply by AMNSI  |
|--------|---|---|
|        |   | <p>The total no. of trees after expansion will be 7,30,000.</p> <p>The revised layout map &amp; Greenbelt area details are submitted by M/s. AMNSI in the ADS reply.</p>  |
| vi.    | <p>MEROS technology for control of dioxins and furan has not been proposed.</p>   | <p>MEROS /equivalent system will be installed for control of dioxins &amp; furans from Sinter plant operation. The same has been updated in the Revised PFR section 3-6-4, Page 3-25</p>  |
| vii.   | <p>Type of GCP (dry or wet) for BF has not been described.</p>  | <p>New BF Gas cleaning process in the proposed expansion will be Dry type. The same is mentioned in the revised PFR at page nos. 3-28 &amp; 3-31, Section 3.6.5.4</p>   |
| viii.  | <p>Existing plant has only 22 % green belt. After expansion the proposed green belt is only 28 % against the requirement of 33%. Layout clearly indicates that enough land is not available for expansion project for green belt development.</p> | <p>Greenbelt plan has been revised and propose to plant the trees in the Green area such as lawn, park etc. as well as intensify the planation in the unit boundaries &amp; road sides. As per the revised plan, the proposed GB will be 33% with tree density of 2500 nos. per Ha and revised GB layout map is submitted by M/s. AMNSI in the ADS reply.</p> <p>In addition to the planned 33% Greenbelt inside the boundary , we propose to plant 20m width tree plantation along the NH-6 between our boundary &amp; NH spanning 6.5 km.</p> |
| ix.    | <p>PFR is giving details of expansion project only. It shall include Jetty and existing ongoing modification and running plant details.</p>   | <p>M/s. AMNSI has already withdrawn its captive jetty expansion proposal from Ministry. Accordingly, PFR has been revised and in the revised application, Captive jetty expansion details have been removed.</p> <p>However, the operation of its existing 1190m jetty will be continued as per the existing EC &amp; CTOs</p>  |
| x.     | <p>PFR does not give details of locations for relocated facility like Office, training center, Control room, Briquette house etc.</p>   | <p>Demolition &amp; relocation plan revised and the same has been updated in the revised PFR submitted, Section 3.11.2, Page Nos. 3-56 &amp; 3-57.</p> <p>Demolition waste will be disposed as per C&amp;D waste rules'2016</p>   |

| S. No. | Observation by Committee  | Reply by AMNSI   |
|--------|---|--|
| xi.    | AAQ stations proposed are inadequate.   | In line with Standard ToR, baseline monitoring has been completed for 8 AAQM stations during the period Feb to May'2021.<br>As an addition to these 8 AAQM stations data, requesting the ministry to consider for using existing plant 3rd party AAQM data of 5 stations.<br>Revised AAQ locations are submitted by M/s. AMNSI in the ADS reply. |
| xii.   | PP has obtained standard ToR on 27/10/2021 from Infra sector vide proposal no IA/GJ/NCP/233331/2021 for Construction of New Jetty (700 m) and Upgradation/ Augmentation of existing Shallow Jetty (456 m & 592 m) to Deep draft Jetty which will catering to the instant expansion proposal of steel plant. Proponent failed to integrate the same in the instant proposal under consideration. | Jetty expansion ToR application has been withdrawn. Accordingly, PFR has been revised and Captive jetty expansion details are removed.   |
| xiii.  | PP has sought for waiver of public hearing. As per the Ministry's O.M. No.J-11011/321/2016-IA.II(I) dated 27/04/2018, public hearing exemption is not available for the metallurgical industries even if the project site is located within the industrial estates/parks.   | Accepted and Public Hearing will be conducted for the proposed expansion project.  |

48.15.17 Based on the ADS reply, the proposal is reconsidered in the 48<sup>th</sup> meeting of the Re-constituted EAC (Industry-I) held on 11 – 12<sup>th</sup> November, 2021. The observations and recommendation is given as below.

48.15.18 During the meeting, project proponent submitted written submission that 33% of green belt with a tree plantation of additional 4,42,571 trees with density of 2500 nos/ha in consultation of District Forest Officer leading to 7,30,00 total nos. of tree after expansion of the project.

#### **Observations of the Committee**

48.15.19 The EAC noted the following:

- i. TOR is being sought for undertaking EIA study for expansion integrated steel plant from 9.6 to 15.6 MTPA at Hazira Village, Chorasi Tehsil, District Surat, Gujarat.
- ii. The proposal was considered in EAC meeting held on 28-29<sup>th</sup> October, 2021 in which proposal was deferred for additional information.

- iii. ADS reply submitted by the proponent on 09/11/2021 was found satisfactory except the location of AAQ monitoring stations. PP may carry out AAQ monitoring for another 1 month in the 4 locations in conformity to the wind rose diagram for all the 12 parameters.
- iv. BF 1 is being modified to increase its capacity from 2.01 MTPA to 3 MTPA. Stove waste gas heat recovery shall be proposed under expansion program.

#### **Recommendations of the Committee**

48.15.20 After deliberations, the Committee recommended the project proposal for prescribing following specific ToRs for undertaking detailed EIA and EMP study in addition to the generic ToR enclosed at Annexure-1 read with additional ToRs at Annexure-2:

- i. Cumulative impact assessment for the existing integrated steel & power plants and proposed modernization & expansion project shall be carried out including the impact on riverine ecology of the Tapi river.
- ii. No construction activity/infringement will take place in the flood plain of Tapi river situated in the vicinity of the project site.
- iii. Status of the Forest clearance for the forest land and the land acquisition details as per MoEF&CC O.M. dated 7/10/2014 shall be submitted.
- iv. Action plan to develop green belt in 33% of the total project area all along the project boundary with density of 2500 saplings per hectare shall be submitted.
- v. During dismantling of existing facilities large number of trees are expected to be uprooted. PP shall enumerate the trees to be cut, possible numbers that could be translocated and compensatory afforestation to be done (in consultation with DFO). Detail for the same shall be incorporated in the EIA report.
- vi. Total water requirement for existing and expansion project shall be sourced from TAPI River. Raw Water treatment facility shall be installed inside the plant premises. Sludge disposal plan shall be elaborated in EIA report.
- vii. PP has proposed the use of 75000 KLD treated sewage water from Surat Municipal Corporation to be pumped from Surat to Hazira. Scheme for treated sewage water pumping shall be furnished.
- viii. Two new BF Gas cleaning process in the proposed expansion will be Dry type and Stove waste gas heat recovery shall be proposed with TRT.
- ix. Raw material from Adani port to plant will be transported through 1.3 Km conveyor along the Surat-Hazira state high way and the same been marked in the layout. The required Right of Way for the conveyor shall be furnished in the EIA report.
- x. Traffic study shall be carried out inter-alia including existing road details with traffic load, proposed quantum of material to be transported by sea/rail/road with anticipated vessels/rakes/vehicles details, line source modelling and infrastructure strengthening details etc., These details shall be included in the EIA report.
- xi. Separate chapter on cyclone/ disaster management shall be prepared and included in the EIA report.
- xii. Mass balance as well as energy balance for the integrated steel plant shall be submitted.
- xiii. The issues raised during public hearing and commitment of the project proponent on the same along with time bound action plan to implement it as per MoEF&CC O.M. dated 30/09/2020 shall be clearly provided.
- xiv. Performance evaluation of the existing pollution control systems shall be carried out and report shall be submitted.

- xv. Socio-economic survey in the project influence area that is 10 Kms radial coverage from the project site shall be carried out and included as a part of EIA report.
- xvi. Characteristics of the coal to be used in the steel and power plant shall be submitted along with the EIA report.
- xvii. Details regarding the existence of mangroves and coral reefs if any, within the study area of the project site along with the conservation plan shall be included in the EIA report.
- xviii. Action plan to limit the dust emission from all the stacks below 30 mg/Nm<sup>3</sup> shall be furnished.
- xix. Action plan for fugitive emission control in the plant premises shall be provided.
- xx. Action plan for 100 % solid waste utilization shall be submitted.
- xxi. Action plan for the stock piles with impervious floor, provision of garland drains and catch pits to trap run off material shall be submitted.
- xxii. AAQ modelling shall be done considering proximity to the coast and riverine ecology.
- xxiii. AAQ monitoring shall be carried out for one-month period at four locations in conformity to the wind rose diagram for all the 12 parameters.
- xxiv. Comprehensive risk assessment study for the entire steel complex shall be carried out and submitted.

48.16 Establishment of 50 MTPA Iron Ore Beneficiation/ De-sliming Plant, 30 MTPA Grinding plant and 30 MTPA Slurry Transportation System by **M/s. JSW Utkal Steel Ltd.** located at Kalamanga village in Koira Tehsil, **District Sundargarh, Odisha.** [Online Proposal No. IA/OR/IND/233288/2021; File No.: IA-J-11011/428/2021-IA-II(IND-I)] – **Reconsideration for grant of Terms of Reference based on ADS reply – regarding.**

48.16.1 M/s. JSW Utkal Steel Limited has made an online application vide proposal no. IA/OR/IND/233288/2021 dated 14/10/2021 along with the application in prescribed format (Form-I), copy of the pre-feasibility report and proposed ToRs for undertaking detailed EIA study as per the EIA Notification, 2006 for the project mentioned above. The proposed project activity is listed at S. No. 2(b) Mineral beneficiation under Category "A" of the schedule of the EIA Notification, 2006 and appraised at central level.

**Details submitted by Project proponent**

48.16.2 The project of M/s. JSW Utkal Steel Limited located in Kalamanga Village, Koira Tehsil, Sundargarh District, Odisha is for setting up of a new 50 MTPA Iron Ore Beneficiation/ De-sliming Plant, 30 MTPA Grinding plant and 30 MTPA Slurry Transportation System. Till the beneficiation plants will be ready, it is proposed to install mobile /modular washing plant of capacity 1000 TPH (5 x 200 TPH).

48.16.3 Environmental site settings:

| S.No. | Particulars | Details   | Remarks   |
|-------|-------------|---|---|
| i.    | Total land  | 64.66 ha (159.79 acres)<br><br>The land for the proposed plant will be acquired through IDCO / direct purchase. | Land use:<br>Private: 51.356 ha (126. 90 acres)<br>Govt.: 13.31 ha; (32.89 acres) |

| S.No. | Particulars  | Details  |                   |                   | Remarks   |
|-------|--|--|-------------------|-------------------|---|
| ii.   | Existence of habitation & involvement of R&R, if any.  | Nil  |                   |                   | Entire land is vacant from any habitation   |
| iii.  | Latitude and Longitude of the project site   | <b>Sr. No</b>  | <b>Latitude</b>   | <b>Longitude</b>  | -   |
|       |  | 1  | 21° 57' 32.786" N | 85° 18' 32.389" E |   |
|       |  | 2  | 21° 57' 23.861" N | 85° 18' 32.708" E |   |
|       |  | 3  | 21° 57' 22.557" N | 85° 18' 38.298" E |   |
|       |  | 4  | 21° 57' 5.390" N  | 85° 18' 37.390" E |   |
|       |  | 5  | 21° 57' 2.008" N  | 85° 18' 1.812" E  |   |
|       |  | 6  | 21° 57' 11.790" N | 85° 17' 59.959" E |   |
|       |  | 7  | 21° 57' 22.171" N | 85° 18' 10.386" E |   |
| iv.   | Elevation of the project site  | 570-578 m AMSL   |                   |                   |   |
| v.    | Involvement of Forest land if any  | Nil  |                   |                   |   |
| vi.   | Water body exists within the project site as well as study area  | <b>Project site:</b><br>Kalmang dry Nala (within plant area)<br><br><b>Study Area:</b><br>Karo Nadi 4.2 Km, NW; Suna Nadi (Kundra Nadi) 1.2 Km, E; Teheri Nala 4.0 Km, S; Kukarhajora 7.1 Km, WNW; Samij Nala 9.4 Km, W; Korai Nala 10.8 Km, NW; Topadihi Nala 1.8 Km, N; Kunduru Nala 5.2 Km, NE; Kakarpahi Nala 3.9 Km, E; |                   |                   | Elevation of Suna Nadi is 561 m AMSL at nearest pond and Topadihi Nala is around 550 m AMSL |
| vii.  | Existence of ESZ/ESA/national park/wildlife sanctuary/biosphere reserve/tiger reserve/elephant reserve etc. if any within the study area | <b>Project site:</b> Nil<br><br><b>Study Area:</b><br>Torha RF 8.6 km, W; Karo RF 4.9 Km, W; Kathamala RF 5.8 Km, WSW; Uliburu RF 5.8 Km, N; Lakrghat RF 4.2 Km, N; Siddhamath RF 2.6 Km, E; Baitarani RF 3.9 Km, E; Thoilkabad RF 8.9 Km, NW<br><br>Proposed Elephant Corridor: Karo-Karampada Elephant Corridor 8.6 Km, N  |                   |                   | -   |

48.16.4 The unit configuration and capacity of proposed project is given as below:

| S. No | Name                                   | Proposed configuration  | Proposed Production   |
|-------|--|---|---|
| 1     | Iron Ore Beneficiation/Desliming plant | For Iron Ore fines beneficiation - 6 modules of 5 MTPA and 1 module of 6 MTPA each. | 36 MTPA (Input)<br>30 MTPA (Output-Beneficiated Iron Ore concentrate) |
|       |  | For Iron Ore Lumps Coarse   | 14 MTPA (Input)   |

| S. No | Name                         | Proposed configuration  | Proposed Production                       |
|-------|------------------------------|---|---|
|       |                              | Beneficiation – 4 modules of 3.5 MTPA each.   | 13 MTPA (Output- Upgraded Iron Ore Lumps) |
| 2     | Grinding plant               | Belt conveyor,<br>Primary ball mill,<br>Sump<br>Secondary ball mill<br>Cyclone<br>Derrick Screen<br>Concentrate Thickener | 30 MTPA                                   |
| 3     | Slurry Transportation System | Slurry Tanks<br>Slurry Pumping Station  | 30 MTPA                                   |
| 4     | Mobile/Modular washing plant | 5 Modules of 200 TPH  | 1000 TPH                                  |

The beneficiated Iron ore concentrate is planned to send to end use steel plants at Paradip through dedicated slurry pipeline. The upgraded Iron Ore lumps will be transported through the nearest railway siding for further transportation to JSW steel plant. If there is delay in laying of Slurry/Tailing pipeline due to some unavoidable reasons and/or problems in pipeline operation, it is proposed to sell the concentrate/tailings in the market, depending upon the demand for the same.

48.16.5 The details of the raw material requirement for the proposed project along with its source and mode of transportation is given as below:

| S. No | Raw Material | Quantity Required, MTPA | Source  | Distance from site, Kms | Mode of Transportation |
|-------|--------------|-------------------------|---|-------------------------|------------------------|
| 1     | Iron Ore     | 50                      | Surrounding JSW Mines + Nearby Merchant Mines | 0.1 to 30 Kms           | Road/Rail/Conveyor     |

48.16.6 The total make-up water requirement for the proposed grinding & beneficiation plant and slurry preparation & slurry pumping facilities is about 4,000 m<sup>3</sup>/hr (96,000 m<sup>3</sup>/day) and it will be met from Baitarani River in Kanupur dam upstream/downstream side located at Champua in Keonjhar district of Odisha through a dedicated 35 km water pipeline. In principal allocation of 39 cusecs (4000m<sup>3</sup>/hr) water from Govt of Odisha, Department of Water Resources has been obtained vide letter dated 24/10/2019.

48.16.7 The power requirement for the project is estimated about 90 MW and will be met by power connection from Odisha Power Transmission Corporation Limited (OPTCL) Grid Sub-Station. DG sets (2 nos. of about 4.09 & 3.6 MW) will be used for emergency purpose.

48.16.8 The capital cost of the project is about Rs. 2537 Crores and the capital cost for environmental protection measures is proposed as Rs. 40 Crores. The employment

generation from the proposed project is about 350 people including skilled, semi-skilled, unskilled and clerical manpower apart from managerial staff.

48.16.9 It has been reported by PP that, there is no violation under EIA Notification, 2006/court case/show cause/direction related to the project under consideration.

48.16.10 Name of the EIA Consultant: M/s. VIMTA Labs, Hyderabad [S. No. 141, List of ACOs with their Certificate / Extension Letter no. Rev. 15, October 11, 2021].

48.16.11 Proposed Terms of Reference (**Baseline data already collected in Post Monsoon Period: 1<sup>st</sup> October 2020 to 31<sup>st</sup> December 2020**):

| Attributes      | Parameters                                    | Sampling  |                                     | Remarks   |                                   |
|-----------------|---|---|-------------------------------------|---|-----------------------------------|
|                 |   | No. of stations   | Frequency                           |   |                                   |
| <b>A. Air</b>   |   |   |                                     |   |                                   |
| a.              | Meteorological parameters                     | Wind speed, wind direction, temperature, relative humidity, rainfall, and other non-instrumental observations | 1 location                          | Continuous for three months with hourly recording at one central location and secondary data collected from nearest IMD                               | Core zone of proposed plant       |
| b.              | AAQ parameters                                | As per NAAQ's 2009  | 11 locations                        | 24 hourly samples twice a week for 13-weeks. CO is monitored for three 8 hourly samples in 24 hours for twice a week for thirteen weeks               | 1 in core zone; 10 in buffer zone |
| <b>B. Noise</b> |   |   |                                     |   |                                   |
|                 | Noise   | Lday, Lnight, Leq   | 12 locations                        | Hourly readings for 24 hours at eleven locations, once during study period  | 1 in core zone; 11 in buffer zone |
| <b>C. Water</b> |   |   |                                     |   |                                   |
|                 | Surface water/Ground water quality parameters | Physical, chemical and bacteriological parameter  | 10 locations (GW) + 5 location (SW) | Grab samples were collected from surface water (SW) and ground water (GW) sources. Sampling and analysis was carried out for once during study period | Based on the study area           |
| <b>D. Land</b>  |   |   |                                     |   |                                   |
| a.              | Soil quality                                  | Soil profile with chemical constituent  | 12 locations                        | Once during study period  | Based on total study area         |

| Attributes |                   | Parameters   | Sampling                 |   | Remarks                   |
|------------|-------------------|--|--------------------------|---|---------------------------|
|            |                   |  | No. of stations          | Frequency   |                           |
| b.         | Land use          | Satellite imagery interpretation, Land use details | Study area               | Based on secondary data and satellite imagery   | Based on total study area |
| E.         | <b>Biological</b> |  |                          |   |                           |
| a.         | Aquatic           | Aquatic flora and fauna in the study area          | Study area               | Primary survey through field studies during study period and supplemented with published data | Based on total study area |
| b.         | Terrestrial       | Terrestrial flora and fauna in the study area      | Study area               | Primary survey through field studies during study period and supplemented with published data | Based on total study area |
| F.         | Socio-economic    | Socio-economic characteristics                     | Once during study period | Based on data published in district census handbooks and field study                          | Based on total study area |

48.16.12 M/s. JSW Utkal Steel Limited has made an online application vide proposal no. IA/OR/IND/233288/2021 dated 14/10/2021. The proposal was initially considered in 47<sup>th</sup> Re-constituted EAC (Industry- 1) held on 28-29<sup>th</sup> October, 2021. The observations and recommendation is given as below:

**Observations of the Committee during 28-29<sup>th</sup> October, 2021**

48.16.13 The EAC noted the following:

- i. The details of land required for Pipe conveyor, Slurry pipe line, Route of Pipe line and land use of pipe route and area required for tailing disposal during life cycle of the project has not been furnished.
- ii. Tailing management details are not available.
- iii. It is proposed to sell the iron ore concentrate in open market if pipe line is not ready in time. Dewatering of ground concentrate in filter press and adequate storage facility shall be required at site, the details of which are not provided in PFR.
- iv. Traffic management for road transport action of Iron Ore (ROM), Washed lump Ore, ground dewatered iron ore by road in case of pipe line failure are not given.
- v. Cumulative impact details for mines, pipe lines, tailing ponds and tailing dewatering systems at remote locations are not given.
- vi. All stacks shall be designed for PM emission levels of 50 mg/Nm<sup>3</sup>. It should have been 30 mg/Nm<sup>3</sup>.
- vii. Tailings of the plant shall be pumped to tailing disposal sites. Location, area required and transport route details are not given.
- viii. Mines Ministry has not given approval for backfilling of abandoned iron ore mines.
- ix. Base line data have already been collected. The locations shown for AAQ are not adequate for spread of this size. The AAQ monitoring shall be redone.

- x. There are already two proposals (IA/OR/IND/74415/2018 and IA/OR/MIN/179208/2020) for which ToR were accorded by the Ministry for setting up of beneficiation plant which will be catering to the proposed ISP project at Paradeep. Instant proposal is a third one which will also be catering to the said ISP project. No explanation is made available by the PP in this regard.

**Recommendations of the Committee during 28-29<sup>th</sup> October, 2021**

48.16.14 In view of the foregoing and after deliberations, the Committee recommended to defer the proposal and sought additional information referred at para no. 48.16.13 above for further consideration of the proposal.

48.16.15 The proponent submitted the ADS reply vide letter dated 09/11/2021 as follows:

| S. No. | ADS Point raised  | Reply by JSW Utkal Steel Limited   |  |   |                          |       | Status of the Land / RoW & Forest clearance |   |
|--------|---|--|--|---|--------------------------|-------|---|---|
|        |   | Sl. No.  | Item   | Area Breakup (Ha) & Status of Protected areas/ Wildlife |                          |       |   |   |
|        |   | Forest   | Non-Forest   | Total   | Protected area/ Wildlife |       |   |   |
| i.     | The details of land required for Pipe conveyor, Slurry pipe line, Route of Pipe line and land use of pipe route and area required for tailing disposal during life cycle of the project has not been furnished. | The Total land required for the proposed project along with the associated facilities with area breakup, land use and statutory clearances obtained are given in the below Table with annexures. |  |   |                          |       |   |   |
|        |   | 1  | Beneficiation, Grinding & Slurry Pumping Station in Sundargarh Dist.                           | Nil   | 64.66                    | 64.66 | Non-Involvement*                            | Application for Land acquisition submitted to IDCO vide letter dated 30/09/2021 and 28/10/2021 and also administrative fees paid.                       |
|        |   | 1A   | Conveyer Corridor for Iron Ore from JSW Nuagaon to Project site (2 Km – Within the lease area) | 0.70  | 0.11                     | 0.81  | Non-Involvement*                            | Nuagaon & Kalmang share common boundary. Corridor available.  |
|        |   | 1B   | Conveyer Corridor for Iron Ore from JSW Narayanposhi to Project site via Nuagaon (5 Km)        | 5.47  | 4.10                     | 9.57  | Non-Involvement*                            | Application submitted to NHAI for 6-km long corridor vide letter dated 30/10/2021. Under active consideration of NHAI (letter of NHAI dated 01/11/2021) |
|        |   | 1C   | Conveyer Corridor for Iron Ore from Guali (OMC) to Project site (6 Km)                         | 3.55  | 2.45                     | 6.0   | Non-Involvement*                            | Guali and Nuagaon are on opposite sides of  |

| S. No. | ADS Point raised | Reply by JSW Utkal Steel Limited |  |       |       |       |                               |   |
|--------|------------------|----------------------------------|--|-------|-------|-------|-------------------------------|---|
|        |                  |                                  |  |       |       |       |                               |   |
|        |                  |                                  |  |       |       |       | NH 520. RoW will be obtained. |   |
|        |                  | 2A                               | Water Intake Pumping Station   | Nil   | DoWR  | DoWR  | Non-Involvement*              | Approval obtained from DoWR vide letter Bo. 3303/CCE (KIP) dated 30/10/2021 to locate the Intake inside Dam impounding area of DoWR   |
|        |                  | 2B                               | Water pipe line from Intake pump house to Kalmang (34 Km)  | 5.18  | 4.20  | 9.38  | Non-Involvement*              | NHAI has approved and allocated 1700 mm wide corridor from Kandra/Kanupur Dam to Nuagaon.   |
|        |                  | 3                                | 132KV Transmission Line Corridor (20 Km)   | 23.35 | 32.21 | 55.56 | Non-Involvement*              | OPTCL approved the route. DGPS study for the forest is over. Map authentication in process  |
|        |                  | 4A                               | Option A1: Tailing and Return water pipelines (2 Km * 2 Nos)- within the lease<br>-Nuagaon exhausted pit | 1.10  | -     | 1.10  | Non-Involvement*              | Diverted forest land. Nuagaon & Kalmang share common boundary. Corridor available.  |
|        |                  | 4B                               | Option A2: Tailing and Return water pipelines (15 Km * 2 Nos)-<br>Jajang exhausted pit                   | 12.87 | 1.18  | 14.05 | Non-Involvement*              | 39 out of 45 KM RoW secured from PWD road, RD Road & also, NoC from other mine Lessees obtained vide letter dated 06/05/2021, 22/07/2021 and 24/09/2021 respectively. DGPS study is in concluding stage for Forest route. |
|        |                  | 5A                               | Option A1: Tailing Disposal Area at  | 42.11 | 6.51  | 48.62 | Non-Involvement*              | Disposal within the exhausted pit of working  |

| S. No. | ADS Point raised | Reply by JSW Utkal Steel Limited   |   |       |       |               |   |  |
|--------|------------------|--|---|-------|-------|---------------|---|--|
|        |                  |  | Nuagaon exhausted pit.                                      |       |       |               | mines. JSW requested to MoM for disposal of slime permission and the same is under active consideration (Annexure – 8). Diverted forest land. Nuagaon & Kalmang share common boundary.                                      |  |
|        |                  | 5B   | Option A2: Tailing Disposal Area at Jajang exhausted pit.   | 49.60 | 1.00  | 50.60         | Non-Involvement*<br>Disposal within the exhausted pit of working mines. JSW requested to MoM for disposal of slime permission vide letter dated 06/09/2021 and the same is under active consideration. Diverted forest land |  |
|        |                  | 6A   | Option B: Joda - Tailing and Return water pipelines (30 Km) | 4.176 | 4.162 | 8.34          | Non-Involvement*<br>NHAI has approved and allocated 1700 mm wide corridor from Nuagaon to Joda (Forest clearance obtained dt. 27.09.2020)   |  |
|        |                  | 6B   | Option B: Tailing Disposal Area at Joda Tailing Pond        | 20.27 | 54.10 | 74.37         | Non-Involvement*<br>Stage – I Forest clearance obtained dated 23/12/2019  |  |
|        |                  | (*National park, Sanctuaries, Biosphere reserves, Wildlife corridors, Ramsar sites, Tiger/Elephant Reserves, Corridors in core zone & alignment route) |   |       |       |               |   |  |
|        |                  | <b>Grand Total Option A (External – Mine exhausted Pit area)</b>   |   |       |       | <b>260.35</b> | Including Option (4A:A1, 5A:A1 & 5B:A2) (Considering the life of the project as 25 to 30 yrs.)  |  |

| S. No. | ADS Point raised  | Reply by JSW Utkal Steel Limited  |        |  |                                  |
|--------|---|---|--------|--|----------------------------------|
|        |   | Grand Total Option B (Project area)   | 228.69 |  | Including Option (6A: B & 6B: B) |
| ii.    | Tailing management details are not available.   | <p><b><u>Tailing Management:</u></b></p> <p>Two different plans are proposed for environmentally-benign disposal of Tailing.</p> <p><b>PLAN A:</b></p> <ul style="list-style-type: none"> <li>• PHASE 1: Disposal of Tailing into Nuagaon Abandoned/Exhausted pit</li> <li>• PHASE 2: Disposal of Tailing into Jajang Abandoned/Exhausted pit.</li> </ul> <p><b>PLAN B</b></p> <ul style="list-style-type: none"> <li>• Disposal of Tailing into Slime disposal area at Joda.</li> </ul> <p>Plan – A proposes to dispose the tailings in abandoned iron ore mines of JSW Nuagaon / Jajang as a part of mine closure plan. This involves the following operations:</p> <ul style="list-style-type: none"> <li>• <i>Transporting the Tailing in slurry form to the head of the mine</i></li> <li>• <i>Thickening of paste in Paste Thickener</i></li> <li>• <i>Disposal of tailing into the bottom of the mine in dry form by pumping</i></li> <li>• <i>Returning of recirculation by Return Water Pipeline</i></li> <li>• <i>Closing the mine top with soft soil (after filling with tailing) and plantation thereafter</i></li> </ul> <p>Detailed Tailing Management Plan is provided in Pre-feasibility report (Pg no. 48-58).</p> |        |  |                                  |
| iii.   | It is proposed to sell the iron ore concentrate in open market if pipe line is not ready in time. Dewatering of ground concentrate in filter press and adequate storage facility shall be required at site, the details of which are not provided in PFR. | <p><b>Till the Slurry Pipe Line is not commissioned:</b></p> <ul style="list-style-type: none"> <li>• JSW shall operate the Beneficiation Plant at 16 MTPA throughput (13 MTPA product + 3 MTPA tailing).</li> <li>• Horizontal vacuum belt filter will filter the 13 MTPA product which will be stacked at Sl. no. 11 in the layout for further dispatch to the market. Milling plant as well as lump beneficiation plant shall not be made operational.</li> <li>• Product will be only 13 MTPA beneficiated fines. There will be no milled or ground product.</li> </ul> <p><b>When Slurry Pipe Line is commissioned but undergoes breakdown:</b></p> <ul style="list-style-type: none"> <li>• Plant will be operated at 50 MTPA throughput (30 MTPA milled product + 13 MTPA washed lumps + 7 MTPA tailing)</li> <li>• In case of such emergency, the milled or ground product will be discharged in emergency dump pond of capacity 1 lac cum with 32 hrs of surge capacity (shown as sl. no 17 in the layout).</li> </ul> <p>Proposed Project Layout showing the storage facilities/emergency dump pond is submitted by proponent.</p>  |        |  |                                  |

| S. No.  | ADS Point raised   | Reply by JSW Utkal Steel Limited  |                                   |                                    |                        |                                   |   |       |        |                               |  |      |       |              |      |       |
|---|--|---|-----------------------------------|------------------------------------|------------------------|-----------------------------------|---|-------|--------|-------------------------------|--|------|-------|--------------|------|-------|
| iv.   | Traffic management for road transport action of Iron Ore (ROM), Washed lump Ore, ground dewatered iron ore by road in case of pipe line failure are not given. | <p><b>Traffic management of incoming &amp; outgoing material: -</b></p> <ul style="list-style-type: none"> <li>• 20 MTPA material from other mines will be received through trucks, 82 trucks of 25 - 35 T each will be unloaded in an hour &amp; for this 10-unloading system considering 8 mins per truck to unload.</li> <li>• 13 MTPA coarse product will be dispatched at the rate of 52 trucks of 25 - 35 T each, considering 5 mins per truck with 4 No. Rapid loading system.</li> </ul> <p>Million standard Axles (MSA) is for Designing of the Pavement. Design of flexible pavements apply for expressway, national highways, state highways, major district roads and other categories of roads. The study has been carried out for 2 scenarios</p> <ul style="list-style-type: none"> <li>• <b>Scenario 1: Traffic load with slurry pipe line (Proposed)</b></li> <li>• <b>Scenario 2: Traffic load without slurry pipe line (Worst case scenario)</b></li> </ul> <p>The cumulative vehicles per day (CVPD) and Million Standard Axles (MSA) for the additional vehicles due to the proposed project without slurry pipeline and with slurry pipeline are given below in Table.</p> <table border="1"> <thead> <tr> <th>Details</th> <th>Cumulative Vehicles Per day (CVPD)</th> <th>Million Standard Axles</th> <th>Pavement Thickness as per IRC -37</th> </tr> </thead> <tbody> <tr> <td><b>Additional Vehicles (CVPD) due to the proposed project without Slurry pipeline</b></td> <td>7575*</td> <td>29.78*</td> <td rowspan="3"><b>730 mm with CBR **- 4%</b></td> </tr> <tr> <td><b>Additional Vehicles (CVPD) due to the proposed project with Slurry pipeline</b></td> <td>5606</td> <td>22.04</td> </tr> <tr> <td><b>Total</b></td> <td>6618</td> <td>26.02</td> </tr> </tbody> </table> <p>** California Bearing Ratio<br/>* Worst case without pipe line</p> | Details                           | Cumulative Vehicles Per day (CVPD) | Million Standard Axles | Pavement Thickness as per IRC -37 | <b>Additional Vehicles (CVPD) due to the proposed project without Slurry pipeline</b> | 7575* | 29.78* | <b>730 mm with CBR **- 4%</b> | <b>Additional Vehicles (CVPD) due to the proposed project with Slurry pipeline</b> | 5606 | 22.04 | <b>Total</b> | 6618 | 26.02 |
| Details   | Cumulative Vehicles Per day (CVPD)   | Million Standard Axles  | Pavement Thickness as per IRC -37 |                                    |                        |                                   |   |       |        |                               |  |      |       |              |      |       |
| <b>Additional Vehicles (CVPD) due to the proposed project without Slurry pipeline</b> | 7575*  | 29.78*  | <b>730 mm with CBR **- 4%</b>     |                                    |                        |                                   |   |       |        |                               |  |      |       |              |      |       |
| <b>Additional Vehicles (CVPD) due to the proposed project with Slurry pipeline</b>    | 5606   | 22.04   |                                   |                                    |                        |                                   |   |       |        |                               |  |      |       |              |      |       |
| <b>Total</b>  | 6618   | 26.02   |                                   |                                    |                        |                                   |   |       |        |                               |  |      |       |              |      |       |
| v.  | Cumulative impact details for mines, pipe lines, tailing ponds and tailing dewatering systems at remote locations are not given.                               | <p>The cumulative impacts due to the presence of surrounding Mines/Industries, Pipelines, Tailing ponds and</p> <ul style="list-style-type: none"> <li>• Tailing dewatering systems will be assessed and detailed study will be provided in EIA/EMP Report.</li> <li>• Impact due to the establishment of Iron Ore Beneficiation plant with Industries/Mines located within the study area will be carried out</li> <li>• Air Dispersion modeling will be carried out to predict the incremental concentration due to the cumulative effect of Industries within the study area.</li> <li>• Cumulative Traffic study will be carried out for the following scenario <ul style="list-style-type: none"> <li>✓ Inward flow of Iron Ore from JSW Mines and other merchant mines</li> <li>✓ Outward flow of Calibrated Lump Ore to the end users</li> <li>✓ Tailing disposal through road (as worst-case scenario)</li> <li>✓ Outward flow of Iron Ore Concentrated in absence of slurry pipeline (as a worst-case scenario)</li> </ul> </li> </ul>   |                                   |                                    |                        |                                   |   |       |        |                               |  |      |       |              |      |       |
| vi.   | All stacks shall be designed for PM emission levels of 50  | <ul style="list-style-type: none"> <li>• <b>Stack emission of DG shall be limited to PM emission of 30 mg/Nm<sup>3</sup></b></li> <li>• Dust suppression system will be provided at all around the ore stockpiles.</li> </ul>   |                                   |                                    |                        |                                   |   |       |        |                               |  |      |       |              |      |       |

| S. No. | ADS Point raised  | Reply by JSW Utkal Steel Limited   |                  |                       |                    |                        |                      |               |                        |   |                                |       |          |          |        |             |   |                               |       |          |          |   |                                   |       |          |          |
|--------|---|--|------------------|-----------------------|--------------------|------------------------|----------------------|---------------|------------------------|---|--------------------------------|-------|----------|----------|--------|-------------|---|-------------------------------|-------|----------|----------|---|-----------------------------------|-------|----------|----------|
|        | mg/Nm <sup>3</sup> . It should have been 30 mg/Nm <sup>3</sup> .  |  |                  |                       |                    |                        |                      |               |                        |   |                                |       |          |          |        |             |   |                               |       |          |          |   |                                   |       |          |          |
| vii.   | Tailings of the plant shall be pumped to tailing disposal sites. Location, area required and transport route details are not given. | <ul style="list-style-type: none"> <li>• Iron ore mines being in the vicinity of forest areas, the area for tailing disposal in terms of non-forest area and its low-grade usage has been a challenge for beneficiation of iron ore in large quantities.</li> <li>• Recently, IBM has initiated a discussion for allowing use of abandoned iron ore mines for disposal of tailings as a part of mine closure plan. This initiative is expected to make large number of abandoned mines to be utilized for disposal of tailings in dry form. This ecofriendly measure serves two purposes viz tailing disposal without contaminating the pit with other materials like ore burden and provide safe closure of mines. The area, volume, Quantity, Average Grade and Physical specification required for the disposal of Tailing/Slime due to the proposed beneficiation plant is provided in the Table below</li> </ul> <table border="1"> <thead> <tr> <th>S No</th> <th>Tailings Nomenclature</th> <th>Area required (Ha)</th> <th>Volume in (cu.m)</th> <th>Quantity in (Tonnes)</th> <th>Average Grade</th> <th>Physical Specification</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Nuagaon Exhausted Pit (Plan A)</td> <td>49.00</td> <td>14495554</td> <td>31890219</td> <td rowspan="3">Fe&lt;45%</td> <td rowspan="3">-150 micron</td> </tr> <tr> <td>2</td> <td>Jajang Exhausted Pit (Plan A)</td> <td>50.00</td> <td>27749805</td> <td>61049571</td> </tr> <tr> <td>3</td> <td>Joda slime disposal pond (Plan B)</td> <td>74.37</td> <td>14808360</td> <td>32550000</td> </tr> </tbody> </table> | S No             | Tailings Nomenclature | Area required (Ha) | Volume in (cu.m)       | Quantity in (Tonnes) | Average Grade | Physical Specification | 1 | Nuagaon Exhausted Pit (Plan A) | 49.00 | 14495554 | 31890219 | Fe<45% | -150 micron | 2 | Jajang Exhausted Pit (Plan A) | 50.00 | 27749805 | 61049571 | 3 | Joda slime disposal pond (Plan B) | 74.37 | 14808360 | 32550000 |
| S No   | Tailings Nomenclature   | Area required (Ha)   | Volume in (cu.m) | Quantity in (Tonnes)  | Average Grade      | Physical Specification |                      |               |                        |   |                                |       |          |          |        |             |   |                               |       |          |          |   |                                   |       |          |          |
| 1      | Nuagaon Exhausted Pit (Plan A)  | 49.00  | 14495554         | 31890219              | Fe<45%             | -150 micron            |                      |               |                        |   |                                |       |          |          |        |             |   |                               |       |          |          |   |                                   |       |          |          |
| 2      | Jajang Exhausted Pit (Plan A)   | 50.00  | 27749805         | 61049571              |                    |                        |                      |               |                        |   |                                |       |          |          |        |             |   |                               |       |          |          |   |                                   |       |          |          |
| 3      | Joda slime disposal pond (Plan B)   | 74.37  | 14808360         | 32550000              |                    |                        |                      |               |                        |   |                                |       |          |          |        |             |   |                               |       |          |          |   |                                   |       |          |          |
| viii.  | Mines Ministry has not given approval for backfilling of abandoned iron ore mines.  | <p>06/09/2021 - JSW has submitted the proposal to the Ministry of Mines, GoI</p> <p><b><u>Chronological development:</u></b></p> <ul style="list-style-type: none"> <li>• <b>IBM – Nagpur:</b> <ul style="list-style-type: none"> <li>✓ The subject matter was discussed in detail and in principle recommended with certain conditions.</li> <li>✓ In pursuance of the directives issued by Ministry of Mines, IBM Nagpur has constituted the expert committee under the chairmanship of CCOM, IBM Nagpur for framing the policy/guideline.</li> <li>✓ As requested by IBM, on 20/10/2011 JSW has presented the 20 MTPA beneficiation plant located at Vijayanagar works in Karnataka and also best practice adopted before the Expert Committee, wherein the above matter was also deliberated and in principle agreed the said proposal.</li> </ul> </li> <li>• <b>Steel &amp; Mines Department, Govt. of Odisha:</b><br/>Recently, Director of Mines has offered his view for consideration of the proposal subject to conditions.</li> <li>• <b>Ministry of Mines, GoI:</b></li> </ul>  |                  |                       |                    |                        |                      |               |                        |   |                                |       |          |          |        |             |   |                               |       |          |          |   |                                   |       |          |          |

| S. No.                                      | ADS Point raised   | Reply by JSW Utkal Steel Limited   |              |   |  |   |                                     |  |   |  |  |
|---|--|--|--------------|---|--|---|-------------------------------------|--|---|--|--|
|   |  | After receipt of the recommendation from the IBM Nagpur and comments of the Steel and Mines, Government of Odisha, Ministry of Mines will notify the suitable guidelines/ permission shortly.  |              |   |  |   |                                     |  |   |  |  |
| ix.   | Base line data have already been collected. The locations shown for AAQ are not adequate for spread of this size. The AAQ monitoring shall be redone.  | <ul style="list-style-type: none"> <li>• As a part of EIA studies for 4 mining projects namely Nuagaon Iron Ore Mine, Jajang iron Ore Mine, Gonua iron Ore Mine and Narayanposhi iron Ore Mine, the baseline monitoring has been carried out by M/s Vimta Labs Ltd during Post-Monsoon season (01<sup>st</sup> October 2020 – 31<sup>st</sup> December 2020). The study area covers both proposed beneficiation plant area and Tailing disposal areas.</li> <li>• The entire study area represents mostly rural setting surrounded by a few water bodies. The various sources of air pollution in the region are existing mining operations, vehicular traffic, dust arising from unpaved village roads and domestic fuel burning.</li> </ul> <p>Note: [The baseline monitoring locations and the details are provided by proponent].</p>  |              |   |  |   |                                     |  |   |  |  |
| x.  | There are already two proposals (IA/OR/IND/74415/2018 and IA/OR/MIN/179208/2020) for which ToR were accorded by the Ministry for setting up of beneficiation plant which will be catering to the proposed ISP project at Paradeep. Instant proposal is a third one which will also be catering to the said ISP project. No   | <table border="1"> <thead> <tr> <th>Proposal No.</th> <th>Present Status &amp; Explanation for Proposing for Instant Proposal</th> </tr> </thead> <tbody> <tr> <td>IA/OR/IND/74415/2018<br/>[Ind. Projects- 1]</td> <td> <p><b>Purpose:</b> This site was selected considering to procure the ore from nearby merchant mines.</p> <ol style="list-style-type: none"> <li>1. ToR Granted on 05.09.2019.</li> <li>2. Public Hearing completed</li> <li>3. Final EIA submitted to MoEF&amp;CC &amp; compliance of EDS points are pending.</li> <li>4. Stage-I FC accorded by MoEF&amp;CC.</li> </ol> <p><b>Change in Circumstances:</b> Most of iron ore mines expired on 31st March 2020 and few of them put under auction wherein JSW has won 4 mines having capacity of 28 MTPA and transportation of ore this site has its own demerit.</p> </td> </tr> <tr> <td>IA/OR/MIN/179208/2020<br/>[Non-Coal]</td> <td> <ol style="list-style-type: none"> <li>1. Tor Granted on 29/12/2020</li> <li>2. Draft EIA report is under preparation.</li> </ol> <p>Recently, the State Govt. have carried out the 2nd round of auction of iron ore mines. Besides, State Govt. owned mines have started operation in a big way. This has resulted in availability of low-grade ore in large scale. IBM is also encouraging private players including JSW for utilization of low-grade ore through Beneficiation. <b>JSW explored other options/opted for the instant proposal</b> with an objective to enhance the Beneficiation Capacity to 50 MTPA and to utilize the low-grade ore of merchant auctioned mines.</p> </td> </tr> <tr> <td>IA/OR/IND/233288/2021<br/>[Ind. Projects- 1]</td> <td> <p>Application submitted on 07/10/2021<br/>EAC appraised the proposal on 29/10/2021<br/>We hereby confirm that after granting of instant proposal for TOR/EC, the above two mentioned TOR proposals in respect of setting up Beneficiation plant will be withdrawn</p> <p><u>The reason for exploring third option is as below:</u></p> <ol style="list-style-type: none"> <li>1. Consuming the low-grade ore of nearby mines.</li> <li>2. Making availability of desired grade of ore for meeting the end use plant.</li> </ol> </td> </tr> </tbody> </table> | Proposal No. | Present Status & Explanation for Proposing for Instant Proposal | IA/OR/IND/74415/2018<br>[Ind. Projects- 1] | <p><b>Purpose:</b> This site was selected considering to procure the ore from nearby merchant mines.</p> <ol style="list-style-type: none"> <li>1. ToR Granted on 05.09.2019.</li> <li>2. Public Hearing completed</li> <li>3. Final EIA submitted to MoEF&amp;CC &amp; compliance of EDS points are pending.</li> <li>4. Stage-I FC accorded by MoEF&amp;CC.</li> </ol> <p><b>Change in Circumstances:</b> Most of iron ore mines expired on 31st March 2020 and few of them put under auction wherein JSW has won 4 mines having capacity of 28 MTPA and transportation of ore this site has its own demerit.</p> | IA/OR/MIN/179208/2020<br>[Non-Coal] | <ol style="list-style-type: none"> <li>1. Tor Granted on 29/12/2020</li> <li>2. Draft EIA report is under preparation.</li> </ol> <p>Recently, the State Govt. have carried out the 2nd round of auction of iron ore mines. Besides, State Govt. owned mines have started operation in a big way. This has resulted in availability of low-grade ore in large scale. IBM is also encouraging private players including JSW for utilization of low-grade ore through Beneficiation. <b>JSW explored other options/opted for the instant proposal</b> with an objective to enhance the Beneficiation Capacity to 50 MTPA and to utilize the low-grade ore of merchant auctioned mines.</p> | IA/OR/IND/233288/2021<br>[Ind. Projects- 1] | <p>Application submitted on 07/10/2021<br/>EAC appraised the proposal on 29/10/2021<br/>We hereby confirm that after granting of instant proposal for TOR/EC, the above two mentioned TOR proposals in respect of setting up Beneficiation plant will be withdrawn</p> <p><u>The reason for exploring third option is as below:</u></p> <ol style="list-style-type: none"> <li>1. Consuming the low-grade ore of nearby mines.</li> <li>2. Making availability of desired grade of ore for meeting the end use plant.</li> </ol> |  |
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| S. No. | ADS Point raised  | Reply by JSW Utkal Steel Limited |
|--------|---|----------------------------------|
|        | explanation is made available by the PP in this regard. |                                  |

48.16.16 Based on the ADS reply, the proposal is reconsidered in the 48<sup>th</sup> meeting of the Re-constituted EAC (Industry-I) held on 11 – 12<sup>th</sup> November, 2021. The observations and recommendation is given as below:

**Observations of the Committee**

48.16.17 The EAC noted the following:

- i. TOR is being sought for undertaking EIA study for establishment of 50 MTPA Iron Ore beneficiation / De-sliming plant, 30 MTPA grinding plant and 30 MTPA slurry transportation system located at Kalamanga Village in Koira Tehsil, district Sundergarh, Odisha.
- ii. The proposal was considered in EAC meeting held on 28-29<sup>th</sup> October, 2021 in which proposal was deferred for additional information.
- iii. Reply to the ADS is found to be satisfactory. PP shall obtain amendment in the ToR in case any changes in tailing disposal method.
- iv. Project proponent needs to carry out public hearing in Sundergarh and Keonjhar district in case tailing disposal at Joda slime pond (Option B).

**Recommendations of the Committee**

48.16.18 After deliberations, the Committee recommended the project proposal for prescribing following specific ToRs for undertaking detailed EIA and EMP study in addition to the generic ToR enclosed at Annexure-1 read with additional ToRs at Annexure-2:

- i. Cumulative impact assessment study due to the presence of surrounding Mines/Industries, shall be carried out and submitted.
- ii. A seasonal nallah passes through the project area. The natural drainage pattern of nallah shall be maintained and landscaping of the nallah on both sides shall be carried out.
- iii. At the plant site, dewatering of iron ore concentrate in filter press shall be done and sufficient storage facility shall be provided at site with loading facility for sale of the iron ore concentrate.
- iv. Total water requirement is 4000 KL/hr. Water shall be sourced from river Baitarni 35 km from site. No ground water abstraction shall be permitted.
- v. Tailings of the plant shall be pumped to tailing disposal site. Location and area required is be detailed in EIA report. Alternate arrangement for tailing disposal in case mine back filling is not permitted shall be furnished.
- vi. Tailings from Mobile plant shall be stored separately in the plant complex.
- vii. Traffic study shall be carried out to assess the capacity of roads to handle 50 MTPA of Iron Ore, 30 MTPA of Iron Ore Concentrate in the event it is to be sold and 12 MTPA of washed lump Ore.
- viii. Details of the scheme for pumping of Iron ore slurry from this plant to Paradeep 305 km shall be furnished in EIA report.

- ix. Details of scheme for pumping of tailings/recovered water to/from (plant to tailing pond and back) and for pumping of water from Baitarni River 35 km away through pipeline (including the pump house) shall be provided in the EIA report.
- x. Right of Way (ROW) for pipe routes shall be obtained and details shall be furnished in EIA report.
- xi. Details of Pumping system for return water and recovery of seepage water from tailing pond shall be provided.
- xii. Scheme for green belt development at plant site covering 33% of the project area shall be furnished. A plan for additional green belt at tailing dam site shall also be furnished.
- xiii. Action plan for protecting the existing natural drainage of the area shall be submitted
- xiv. Scheme to dewater the concentrate and tailings from iron ore beneficiation plant shall be furnished.
- xv. Action plan to limit the dust emission from all the stacks below 30 mg/Nm<sup>3</sup> shall be furnished.
- xvi. Action plan for fugitive emission control in the plant premises shall be provided.
- xvii. Action plan for rain water harvesting shall be submitted.
- xviii. Action plan for the stock piles with impervious floor, provision of garland drains and catch pits to trap run off material shall be submitted.
- xix. The list of flora and fauna with its schedule existing in the study area shall be duly authenticated by the Divisional Forest Officer and submitted along with the EIA report.
- xx. Mass balance of Iron Ore Grinding and De-Sliming Plant (Beneficiation Plant) shall be submitted in the EIA report.
- xxi. Dam safety analysis shall be included for tailing pond under Option B at Joda.
- xxii. Risk assessment, safety and surveillance system to be adopted in the pipeline route shall be included in the EIA report.

48.17 Proposed Semi Coke Unit: 2030 KTPA and Cement Plant: 6.0 MTPA; Clinker: 4 MTPA by **M/s. Adani Enterprises Limited** located near Village Vandh & Tunda, Taluka Mundra, **District Kachchh, Gujarat**. [Online Proposal No. IA/GJ/IND/230852/2021; File No.: IA-J-11011/423/2021-IA-II(IND-I)] – **Prescribing of Terms of Reference based on ADS reply – regarding.**

48.17.1 M/s. Adani Enterprises Limited has made an application online vide proposal no. IA/GJ/IND/230852/2021 dated 06/10/2021 along with the application in prescribed format (Form-I), copy of pre-feasibility report and proposed ToR for undertaking detailed EIA study as per the EIA Notification, 2006 for the project mentioned above. The proposed project activity is listed at S. No. 3(b) Cement plant and 4(b) Coke oven plant under Category "A" of the schedule of the EIA Notification, 2006 and appraised at central level.

**Details submitted by Project proponent**

48.17.2 The project of M/s. Adani Enterprises Limited located near Village Vandh & Tunda, Tehsil Mundra, District Kachchh, State Gujarat is for Semi Coke Unit: 2030 KTPA and Cement Plant: 6.0 MTPA; Clinker: 4 MTPA.

48.17.3 Environmental site settings:

| S No | Particulars   | Details  | Remarks  |          |           |    |                |                |    |                |                |    |                |                |    |                |                |    |               |                |    |                |                |    |                |                |    |                |               |    |               |               |    |                |               |    |                |               |    |                |                |    |                |                |    |                |                |    |                |                |    |                |               |    |                |               |    |                |                |    |                |                |    |                |                |    |                |               |    |                |                |    |                |                |    |                |                |    |                |                |     |
|------|---|--|--|----------|-----------|----|----------------|----------------|----|----------------|----------------|----|----------------|----------------|----|----------------|----------------|----|---------------|----------------|----|----------------|----------------|----|----------------|----------------|----|----------------|---------------|----|---------------|---------------|----|----------------|---------------|----|----------------|---------------|----|----------------|----------------|----|----------------|----------------|----|----------------|----------------|----|----------------|----------------|----|----------------|---------------|----|----------------|---------------|----|----------------|----------------|----|----------------|----------------|----|----------------|----------------|----|----------------|---------------|----|----------------|----------------|----|----------------|----------------|----|----------------|----------------|----|----------------|----------------|-----|
| i)   | Total land  | Total land: 800 Acres (323.8 Ha)<br>Semi coke plant will be set up in Pocket-2.<br>Cement plant will be set up in Pocket-1.<br><br>(The proposed project will be established in the land allocated by APSEZL, Taluka Mundra, and District Kutch in the state of Gujarat.)  | The Project would be located in three separate land pockets.<br>Pocket 1: 502.2 acres (falling under Tunda village)<br>Pocket 2: 114.9 acres<br>Pocket 3: 182.9 Acres<br>Pocket 2 & 3 falling under Mundra Village (which is diverted forest land for SEZ development) |          |           |    |                |                |    |                |                |    |                |                |    |                |                |    |               |                |    |                |                |    |                |                |    |                |               |    |               |               |    |                |               |    |                |               |    |                |                |    |                |                |    |                |                |    |                |                |    |                |               |    |                |               |    |                |                |    |                |                |    |                |                |    |                |               |    |                |                |    |                |                |    |                |                |    |                |                |     |
| ii)  | Existence of habitation & involvement of R & R, if any. | The land for the proposed project has no human habitation. Hence, R & R is not involved.   | ---  |          |           |    |                |                |    |                |                |    |                |                |    |                |                |    |               |                |    |                |                |    |                |                |    |                |               |    |               |               |    |                |               |    |                |               |    |                |                |    |                |                |    |                |                |    |                |                |    |                |               |    |                |               |    |                |                |    |                |                |    |                |                |    |                |               |    |                |                |    |                |                |    |                |                |    |                |                |     |
| iii) | Latitude and Longitude of the project site              | <p><b>Pocket -1</b></p> <table border="1"> <thead> <tr> <th>No.</th> <th>Latitude</th> <th>Longitude</th> </tr> </thead> <tbody> <tr><td>A.</td><td>22°47'53.80" N</td><td>69°34'32.69" E</td></tr> <tr><td>B.</td><td>22°47'49.99" N</td><td>69°34'35.82" E</td></tr> <tr><td>C.</td><td>22°47'47.91" N</td><td>69°34'36.33" E</td></tr> <tr><td>D.</td><td>22°47'11.71" N</td><td>69°34'38.80" E</td></tr> <tr><td>E.</td><td>22°47'8.48" N</td><td>69°34'40.27" E</td></tr> <tr><td>F.</td><td>22°46'59.14" N</td><td>69°34'50.48" E</td></tr> <tr><td>G.</td><td>22°46'32.63" N</td><td>69°34'37.72" E</td></tr> <tr><td>H.</td><td>22°46'47.69" N</td><td>69°34'1.83" E</td></tr> <tr><td>I.</td><td>22°47'2.82" N</td><td>69°34'8.07" E</td></tr> <tr><td>J.</td><td>22°47'11.44" N</td><td>69°34'4.04" E</td></tr> <tr><td>K.</td><td>22°47'12.67" N</td><td>69°34'9.14" E</td></tr> <tr><td>L.</td><td>22°47'13.77" N</td><td>69°34'12.71" E</td></tr> <tr><td>M.</td><td>22°47'17.65" N</td><td>69°34'15.53" E</td></tr> <tr><td>N.</td><td>22°47'20.39" N</td><td>69°34'14.21" E</td></tr> <tr><td>O.</td><td>22°47'21.48" N</td><td>69°34'12.10" E</td></tr> <tr><td>P.</td><td>22°47'21.86" N</td><td>69°34'7.96" E</td></tr> <tr><td>Q.</td><td>22°47'21.32" N</td><td>69°34'0.11" E</td></tr> <tr><td>R.</td><td>22°47'21.77" N</td><td>69°33'58.94" E</td></tr> <tr><td>S.</td><td>22°47'23.89" N</td><td>69°33'56.55" E</td></tr> <tr><td>T.</td><td>22°47'24.62" N</td><td>69°33'54.85" E</td></tr> <tr><td>U.</td><td>22°47'30.38" N</td><td>69°34'4.74" E</td></tr> <tr><td>V.</td><td>22°47'40.81" N</td><td>69°34'15.25" E</td></tr> <tr><td>W.</td><td>22°47'42.80" N</td><td>69°34'17.68" E</td></tr> <tr><td>X.</td><td>22°47'43.20" N</td><td>69°34'19.32" E</td></tr> <tr><td>Y.</td><td>22°47'49.05" N</td><td>69°34'27.31" E</td></tr> </tbody> </table> | No.  | Latitude | Longitude | A. | 22°47'53.80" N | 69°34'32.69" E | B. | 22°47'49.99" N | 69°34'35.82" E | C. | 22°47'47.91" N | 69°34'36.33" E | D. | 22°47'11.71" N | 69°34'38.80" E | E. | 22°47'8.48" N | 69°34'40.27" E | F. | 22°46'59.14" N | 69°34'50.48" E | G. | 22°46'32.63" N | 69°34'37.72" E | H. | 22°46'47.69" N | 69°34'1.83" E | I. | 22°47'2.82" N | 69°34'8.07" E | J. | 22°47'11.44" N | 69°34'4.04" E | K. | 22°47'12.67" N | 69°34'9.14" E | L. | 22°47'13.77" N | 69°34'12.71" E | M. | 22°47'17.65" N | 69°34'15.53" E | N. | 22°47'20.39" N | 69°34'14.21" E | O. | 22°47'21.48" N | 69°34'12.10" E | P. | 22°47'21.86" N | 69°34'7.96" E | Q. | 22°47'21.32" N | 69°34'0.11" E | R. | 22°47'21.77" N | 69°33'58.94" E | S. | 22°47'23.89" N | 69°33'56.55" E | T. | 22°47'24.62" N | 69°33'54.85" E | U. | 22°47'30.38" N | 69°34'4.74" E | V. | 22°47'40.81" N | 69°34'15.25" E | W. | 22°47'42.80" N | 69°34'17.68" E | X. | 22°47'43.20" N | 69°34'19.32" E | Y. | 22°47'49.05" N | 69°34'27.31" E | --- |
| No.  | Latitude  | Longitude  |  |          |           |    |                |                |    |                |                |    |                |                |    |                |                |    |               |                |    |                |                |    |                |                |    |                |               |    |               |               |    |                |               |    |                |               |    |                |                |    |                |                |    |                |                |    |                |                |    |                |               |    |                |               |    |                |                |    |                |                |    |                |                |    |                |               |    |                |                |    |                |                |    |                |                |    |                |                |     |
| A.   | 22°47'53.80" N  | 69°34'32.69" E   |  |          |           |    |                |                |    |                |                |    |                |                |    |                |                |    |               |                |    |                |                |    |                |                |    |                |               |    |               |               |    |                |               |    |                |               |    |                |                |    |                |                |    |                |                |    |                |                |    |                |               |    |                |               |    |                |                |    |                |                |    |                |                |    |                |               |    |                |                |    |                |                |    |                |                |    |                |                |     |
| B.   | 22°47'49.99" N  | 69°34'35.82" E   |  |          |           |    |                |                |    |                |                |    |                |                |    |                |                |    |               |                |    |                |                |    |                |                |    |                |               |    |               |               |    |                |               |    |                |               |    |                |                |    |                |                |    |                |                |    |                |                |    |                |               |    |                |               |    |                |                |    |                |                |    |                |                |    |                |               |    |                |                |    |                |                |    |                |                |    |                |                |     |
| C.   | 22°47'47.91" N  | 69°34'36.33" E   |  |          |           |    |                |                |    |                |                |    |                |                |    |                |                |    |               |                |    |                |                |    |                |                |    |                |               |    |               |               |    |                |               |    |                |               |    |                |                |    |                |                |    |                |                |    |                |                |    |                |               |    |                |               |    |                |                |    |                |                |    |                |                |    |                |               |    |                |                |    |                |                |    |                |                |    |                |                |     |
| D.   | 22°47'11.71" N  | 69°34'38.80" E   |  |          |           |    |                |                |    |                |                |    |                |                |    |                |                |    |               |                |    |                |                |    |                |                |    |                |               |    |               |               |    |                |               |    |                |               |    |                |                |    |                |                |    |                |                |    |                |                |    |                |               |    |                |               |    |                |                |    |                |                |    |                |                |    |                |               |    |                |                |    |                |                |    |                |                |    |                |                |     |
| E.   | 22°47'8.48" N   | 69°34'40.27" E   |  |          |           |    |                |                |    |                |                |    |                |                |    |                |                |    |               |                |    |                |                |    |                |                |    |                |               |    |               |               |    |                |               |    |                |               |    |                |                |    |                |                |    |                |                |    |                |                |    |                |               |    |                |               |    |                |                |    |                |                |    |                |                |    |                |               |    |                |                |    |                |                |    |                |                |    |                |                |     |
| F.   | 22°46'59.14" N  | 69°34'50.48" E   |  |          |           |    |                |                |    |                |                |    |                |                |    |                |                |    |               |                |    |                |                |    |                |                |    |                |               |    |               |               |    |                |               |    |                |               |    |                |                |    |                |                |    |                |                |    |                |                |    |                |               |    |                |               |    |                |                |    |                |                |    |                |                |    |                |               |    |                |                |    |                |                |    |                |                |    |                |                |     |
| G.   | 22°46'32.63" N  | 69°34'37.72" E   |  |          |           |    |                |                |    |                |                |    |                |                |    |                |                |    |               |                |    |                |                |    |                |                |    |                |               |    |               |               |    |                |               |    |                |               |    |                |                |    |                |                |    |                |                |    |                |                |    |                |               |    |                |               |    |                |                |    |                |                |    |                |                |    |                |               |    |                |                |    |                |                |    |                |                |    |                |                |     |
| H.   | 22°46'47.69" N  | 69°34'1.83" E  |  |          |           |    |                |                |    |                |                |    |                |                |    |                |                |    |               |                |    |                |                |    |                |                |    |                |               |    |               |               |    |                |               |    |                |               |    |                |                |    |                |                |    |                |                |    |                |                |    |                |               |    |                |               |    |                |                |    |                |                |    |                |                |    |                |               |    |                |                |    |                |                |    |                |                |    |                |                |     |
| I.   | 22°47'2.82" N   | 69°34'8.07" E  |  |          |           |    |                |                |    |                |                |    |                |                |    |                |                |    |               |                |    |                |                |    |                |                |    |                |               |    |               |               |    |                |               |    |                |               |    |                |                |    |                |                |    |                |                |    |                |                |    |                |               |    |                |               |    |                |                |    |                |                |    |                |                |    |                |               |    |                |                |    |                |                |    |                |                |    |                |                |     |
| J.   | 22°47'11.44" N  | 69°34'4.04" E  |  |          |           |    |                |                |    |                |                |    |                |                |    |                |                |    |               |                |    |                |                |    |                |                |    |                |               |    |               |               |    |                |               |    |                |               |    |                |                |    |                |                |    |                |                |    |                |                |    |                |               |    |                |               |    |                |                |    |                |                |    |                |                |    |                |               |    |                |                |    |                |                |    |                |                |    |                |                |     |
| K.   | 22°47'12.67" N  | 69°34'9.14" E  |  |          |           |    |                |                |    |                |                |    |                |                |    |                |                |    |               |                |    |                |                |    |                |                |    |                |               |    |               |               |    |                |               |    |                |               |    |                |                |    |                |                |    |                |                |    |                |                |    |                |               |    |                |               |    |                |                |    |                |                |    |                |                |    |                |               |    |                |                |    |                |                |    |                |                |    |                |                |     |
| L.   | 22°47'13.77" N  | 69°34'12.71" E   |  |          |           |    |                |                |    |                |                |    |                |                |    |                |                |    |               |                |    |                |                |    |                |                |    |                |               |    |               |               |    |                |               |    |                |               |    |                |                |    |                |                |    |                |                |    |                |                |    |                |               |    |                |               |    |                |                |    |                |                |    |                |                |    |                |               |    |                |                |    |                |                |    |                |                |    |                |                |     |
| M.   | 22°47'17.65" N  | 69°34'15.53" E   |  |          |           |    |                |                |    |                |                |    |                |                |    |                |                |    |               |                |    |                |                |    |                |                |    |                |               |    |               |               |    |                |               |    |                |               |    |                |                |    |                |                |    |                |                |    |                |                |    |                |               |    |                |               |    |                |                |    |                |                |    |                |                |    |                |               |    |                |                |    |                |                |    |                |                |    |                |                |     |
| N.   | 22°47'20.39" N  | 69°34'14.21" E   |  |          |           |    |                |                |    |                |                |    |                |                |    |                |                |    |               |                |    |                |                |    |                |                |    |                |               |    |               |               |    |                |               |    |                |               |    |                |                |    |                |                |    |                |                |    |                |                |    |                |               |    |                |               |    |                |                |    |                |                |    |                |                |    |                |               |    |                |                |    |                |                |    |                |                |    |                |                |     |
| O.   | 22°47'21.48" N  | 69°34'12.10" E   |  |          |           |    |                |                |    |                |                |    |                |                |    |                |                |    |               |                |    |                |                |    |                |                |    |                |               |    |               |               |    |                |               |    |                |               |    |                |                |    |                |                |    |                |                |    |                |                |    |                |               |    |                |               |    |                |                |    |                |                |    |                |                |    |                |               |    |                |                |    |                |                |    |                |                |    |                |                |     |
| P.   | 22°47'21.86" N  | 69°34'7.96" E  |  |          |           |    |                |                |    |                |                |    |                |                |    |                |                |    |               |                |    |                |                |    |                |                |    |                |               |    |               |               |    |                |               |    |                |               |    |                |                |    |                |                |    |                |                |    |                |                |    |                |               |    |                |               |    |                |                |    |                |                |    |                |                |    |                |               |    |                |                |    |                |                |    |                |                |    |                |                |     |
| Q.   | 22°47'21.32" N  | 69°34'0.11" E  |  |          |           |    |                |                |    |                |                |    |                |                |    |                |                |    |               |                |    |                |                |    |                |                |    |                |               |    |               |               |    |                |               |    |                |               |    |                |                |    |                |                |    |                |                |    |                |                |    |                |               |    |                |               |    |                |                |    |                |                |    |                |                |    |                |               |    |                |                |    |                |                |    |                |                |    |                |                |     |
| R.   | 22°47'21.77" N  | 69°33'58.94" E   |  |          |           |    |                |                |    |                |                |    |                |                |    |                |                |    |               |                |    |                |                |    |                |                |    |                |               |    |               |               |    |                |               |    |                |               |    |                |                |    |                |                |    |                |                |    |                |                |    |                |               |    |                |               |    |                |                |    |                |                |    |                |                |    |                |               |    |                |                |    |                |                |    |                |                |    |                |                |     |
| S.   | 22°47'23.89" N  | 69°33'56.55" E   |  |          |           |    |                |                |    |                |                |    |                |                |    |                |                |    |               |                |    |                |                |    |                |                |    |                |               |    |               |               |    |                |               |    |                |               |    |                |                |    |                |                |    |                |                |    |                |                |    |                |               |    |                |               |    |                |                |    |                |                |    |                |                |    |                |               |    |                |                |    |                |                |    |                |                |    |                |                |     |
| T.   | 22°47'24.62" N  | 69°33'54.85" E   |  |          |           |    |                |                |    |                |                |    |                |                |    |                |                |    |               |                |    |                |                |    |                |                |    |                |               |    |               |               |    |                |               |    |                |               |    |                |                |    |                |                |    |                |                |    |                |                |    |                |               |    |                |               |    |                |                |    |                |                |    |                |                |    |                |               |    |                |                |    |                |                |    |                |                |    |                |                |     |
| U.   | 22°47'30.38" N  | 69°34'4.74" E  |  |          |           |    |                |                |    |                |                |    |                |                |    |                |                |    |               |                |    |                |                |    |                |                |    |                |               |    |               |               |    |                |               |    |                |               |    |                |                |    |                |                |    |                |                |    |                |                |    |                |               |    |                |               |    |                |                |    |                |                |    |                |                |    |                |               |    |                |                |    |                |                |    |                |                |    |                |                |     |
| V.   | 22°47'40.81" N  | 69°34'15.25" E   |  |          |           |    |                |                |    |                |                |    |                |                |    |                |                |    |               |                |    |                |                |    |                |                |    |                |               |    |               |               |    |                |               |    |                |               |    |                |                |    |                |                |    |                |                |    |                |                |    |                |               |    |                |               |    |                |                |    |                |                |    |                |                |    |                |               |    |                |                |    |                |                |    |                |                |    |                |                |     |
| W.   | 22°47'42.80" N  | 69°34'17.68" E   |  |          |           |    |                |                |    |                |                |    |                |                |    |                |                |    |               |                |    |                |                |    |                |                |    |                |               |    |               |               |    |                |               |    |                |               |    |                |                |    |                |                |    |                |                |    |                |                |    |                |               |    |                |               |    |                |                |    |                |                |    |                |                |    |                |               |    |                |                |    |                |                |    |                |                |    |                |                |     |
| X.   | 22°47'43.20" N  | 69°34'19.32" E   |  |          |           |    |                |                |    |                |                |    |                |                |    |                |                |    |               |                |    |                |                |    |                |                |    |                |               |    |               |               |    |                |               |    |                |               |    |                |                |    |                |                |    |                |                |    |                |                |    |                |               |    |                |               |    |                |                |    |                |                |    |                |                |    |                |               |    |                |                |    |                |                |    |                |                |    |                |                |     |
| Y.   | 22°47'49.05" N  | 69°34'27.31" E   |  |          |           |    |                |                |    |                |                |    |                |                |    |                |                |    |               |                |    |                |                |    |                |                |    |                |               |    |               |               |    |                |               |    |                |               |    |                |                |    |                |                |    |                |                |    |                |                |    |                |               |    |                |               |    |                |                |    |                |                |    |                |                |    |                |               |    |                |                |    |                |                |    |                |                |    |                |                |     |

| S No | Particulars  | Details  | Remarks |          |           |    |                |                |    |               |                |    |                |                |    |                |                |    |                |                |    |                |                |    |                |                |     |          |           |    |               |                |    |                |                |    |                |                |    |               |                |    |               |                |    |               |                |    |               |                |    |               |                |    |                |                |     |               |               |     |               |               |     |               |               |     |               |                |     |               |                |     |               |                |     |                |                |     |                |                |     |                |                |     |                |                |  |
|------|--|--|---------|----------|-----------|----|----------------|----------------|----|---------------|----------------|----|----------------|----------------|----|----------------|----------------|----|----------------|----------------|----|----------------|----------------|----|----------------|----------------|-----|----------|-----------|----|---------------|----------------|----|----------------|----------------|----|----------------|----------------|----|---------------|----------------|----|---------------|----------------|----|---------------|----------------|----|---------------|----------------|----|---------------|----------------|----|----------------|----------------|-----|---------------|---------------|-----|---------------|---------------|-----|---------------|---------------|-----|---------------|----------------|-----|---------------|----------------|-----|---------------|----------------|-----|----------------|----------------|-----|----------------|----------------|-----|----------------|----------------|-----|----------------|----------------|--|
|      |  | <p><b>Pocket -2</b></p> <table border="1"> <thead> <tr> <th>No.</th> <th>Latitude</th> <th>Longitude</th> </tr> </thead> <tbody> <tr> <td>a.</td> <td>22°47'21.22" N</td> <td>69°33'37.65" E</td> </tr> <tr> <td>b.</td> <td>22°47'3.60" N</td> <td>69°33'43.19" E</td> </tr> <tr> <td>c.</td> <td>22°46'50.00" N</td> <td>69°33'44.73" E</td> </tr> <tr> <td>d.</td> <td>22°46'51.17" N</td> <td>69°33'36.77" E</td> </tr> <tr> <td>e.</td> <td>22°46'59.98" N</td> <td>69°33'30.96" E</td> </tr> <tr> <td>f.</td> <td>22°47'12.38" N</td> <td>69°33'19.41" E</td> </tr> <tr> <td>g.</td> <td>22°47'20.34" N</td> <td>69°33'26.00" E</td> </tr> </tbody> </table> <p><b>Pocket-3</b></p> <table border="1"> <thead> <tr> <th>No.</th> <th>Latitude</th> <th>Longitude</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>22°48'7.71" N</td> <td>69°32'12.72" E</td> </tr> <tr> <td>2.</td> <td>22°48'11.60" N</td> <td>69°32'55.01" E</td> </tr> <tr> <td>3.</td> <td>22°48'11.55" N</td> <td>69°33'21.75" E</td> </tr> <tr> <td>4.</td> <td>22°48'1.78" N</td> <td>69°33'24.93" E</td> </tr> <tr> <td>5.</td> <td>22°48'2.30" N</td> <td>69°33'21.93" E</td> </tr> <tr> <td>6.</td> <td>22°46'2.35" N</td> <td>69°33'19.30" E</td> </tr> <tr> <td>7.</td> <td>22°46'1.37" N</td> <td>69°33'18.18" E</td> </tr> <tr> <td>8.</td> <td>22°46'0.35" N</td> <td>69°33'15.44" E</td> </tr> <tr> <td>9.</td> <td>22°47'59.49" N</td> <td>69°33'14.33" E</td> </tr> <tr> <td>10.</td> <td>22°48'8.25" N</td> <td>69°33'5.08" E</td> </tr> <tr> <td>11.</td> <td>22°48'8.75" N</td> <td>69°33'2.53" E</td> </tr> <tr> <td>12.</td> <td>22°48'7.99" N</td> <td>69°33'0.27" E</td> </tr> <tr> <td>13.</td> <td>22°48'9.03" N</td> <td>69°32'55.95" E</td> </tr> <tr> <td>14.</td> <td>22°48'7.84" N</td> <td>69°32'52.95" E</td> </tr> <tr> <td>15.</td> <td>22°48'8.18" N</td> <td>69°32'48.86" E</td> </tr> <tr> <td>16.</td> <td>22°47'46.06" N</td> <td>69°32'33.01" E</td> </tr> <tr> <td>17.</td> <td>22°47'43.20" N</td> <td>69°32'16.50" E</td> </tr> <tr> <td>18.</td> <td>22°47'45.06" N</td> <td>69°32'15.79" E</td> </tr> <tr> <td>19.</td> <td>22°47'45.40" N</td> <td>69°32'12.49" E</td> </tr> </tbody> </table> | No.     | Latitude | Longitude | a. | 22°47'21.22" N | 69°33'37.65" E | b. | 22°47'3.60" N | 69°33'43.19" E | c. | 22°46'50.00" N | 69°33'44.73" E | d. | 22°46'51.17" N | 69°33'36.77" E | e. | 22°46'59.98" N | 69°33'30.96" E | f. | 22°47'12.38" N | 69°33'19.41" E | g. | 22°47'20.34" N | 69°33'26.00" E | No. | Latitude | Longitude | 1. | 22°48'7.71" N | 69°32'12.72" E | 2. | 22°48'11.60" N | 69°32'55.01" E | 3. | 22°48'11.55" N | 69°33'21.75" E | 4. | 22°48'1.78" N | 69°33'24.93" E | 5. | 22°48'2.30" N | 69°33'21.93" E | 6. | 22°46'2.35" N | 69°33'19.30" E | 7. | 22°46'1.37" N | 69°33'18.18" E | 8. | 22°46'0.35" N | 69°33'15.44" E | 9. | 22°47'59.49" N | 69°33'14.33" E | 10. | 22°48'8.25" N | 69°33'5.08" E | 11. | 22°48'8.75" N | 69°33'2.53" E | 12. | 22°48'7.99" N | 69°33'0.27" E | 13. | 22°48'9.03" N | 69°32'55.95" E | 14. | 22°48'7.84" N | 69°32'52.95" E | 15. | 22°48'8.18" N | 69°32'48.86" E | 16. | 22°47'46.06" N | 69°32'33.01" E | 17. | 22°47'43.20" N | 69°32'16.50" E | 18. | 22°47'45.06" N | 69°32'15.79" E | 19. | 22°47'45.40" N | 69°32'12.49" E |  |
| No.  | Latitude   | Longitude  |         |          |           |    |                |                |    |               |                |    |                |                |    |                |                |    |                |                |    |                |                |    |                |                |     |          |           |    |               |                |    |                |                |    |                |                |    |               |                |    |               |                |    |               |                |    |               |                |    |               |                |    |                |                |     |               |               |     |               |               |     |               |               |     |               |                |     |               |                |     |               |                |     |                |                |     |                |                |     |                |                |     |                |                |  |
| a.   | 22°47'21.22" N   | 69°33'37.65" E   |         |          |           |    |                |                |    |               |                |    |                |                |    |                |                |    |                |                |    |                |                |    |                |                |     |          |           |    |               |                |    |                |                |    |                |                |    |               |                |    |               |                |    |               |                |    |               |                |    |               |                |    |                |                |     |               |               |     |               |               |     |               |               |     |               |                |     |               |                |     |               |                |     |                |                |     |                |                |     |                |                |     |                |                |  |
| b.   | 22°47'3.60" N  | 69°33'43.19" E   |         |          |           |    |                |                |    |               |                |    |                |                |    |                |                |    |                |                |    |                |                |    |                |                |     |          |           |    |               |                |    |                |                |    |                |                |    |               |                |    |               |                |    |               |                |    |               |                |    |               |                |    |                |                |     |               |               |     |               |               |     |               |               |     |               |                |     |               |                |     |               |                |     |                |                |     |                |                |     |                |                |     |                |                |  |
| c.   | 22°46'50.00" N   | 69°33'44.73" E   |         |          |           |    |                |                |    |               |                |    |                |                |    |                |                |    |                |                |    |                |                |    |                |                |     |          |           |    |               |                |    |                |                |    |                |                |    |               |                |    |               |                |    |               |                |    |               |                |    |               |                |    |                |                |     |               |               |     |               |               |     |               |               |     |               |                |     |               |                |     |               |                |     |                |                |     |                |                |     |                |                |     |                |                |  |
| d.   | 22°46'51.17" N   | 69°33'36.77" E   |         |          |           |    |                |                |    |               |                |    |                |                |    |                |                |    |                |                |    |                |                |    |                |                |     |          |           |    |               |                |    |                |                |    |                |                |    |               |                |    |               |                |    |               |                |    |               |                |    |               |                |    |                |                |     |               |               |     |               |               |     |               |               |     |               |                |     |               |                |     |               |                |     |                |                |     |                |                |     |                |                |     |                |                |  |
| e.   | 22°46'59.98" N   | 69°33'30.96" E   |         |          |           |    |                |                |    |               |                |    |                |                |    |                |                |    |                |                |    |                |                |    |                |                |     |          |           |    |               |                |    |                |                |    |                |                |    |               |                |    |               |                |    |               |                |    |               |                |    |               |                |    |                |                |     |               |               |     |               |               |     |               |               |     |               |                |     |               |                |     |               |                |     |                |                |     |                |                |     |                |                |     |                |                |  |
| f.   | 22°47'12.38" N   | 69°33'19.41" E   |         |          |           |    |                |                |    |               |                |    |                |                |    |                |                |    |                |                |    |                |                |    |                |                |     |          |           |    |               |                |    |                |                |    |                |                |    |               |                |    |               |                |    |               |                |    |               |                |    |               |                |    |                |                |     |               |               |     |               |               |     |               |               |     |               |                |     |               |                |     |               |                |     |                |                |     |                |                |     |                |                |     |                |                |  |
| g.   | 22°47'20.34" N   | 69°33'26.00" E   |         |          |           |    |                |                |    |               |                |    |                |                |    |                |                |    |                |                |    |                |                |    |                |                |     |          |           |    |               |                |    |                |                |    |                |                |    |               |                |    |               |                |    |               |                |    |               |                |    |               |                |    |                |                |     |               |               |     |               |               |     |               |               |     |               |                |     |               |                |     |               |                |     |                |                |     |                |                |     |                |                |     |                |                |  |
| No.  | Latitude   | Longitude  |         |          |           |    |                |                |    |               |                |    |                |                |    |                |                |    |                |                |    |                |                |    |                |                |     |          |           |    |               |                |    |                |                |    |                |                |    |               |                |    |               |                |    |               |                |    |               |                |    |               |                |    |                |                |     |               |               |     |               |               |     |               |               |     |               |                |     |               |                |     |               |                |     |                |                |     |                |                |     |                |                |     |                |                |  |
| 1.   | 22°48'7.71" N  | 69°32'12.72" E   |         |          |           |    |                |                |    |               |                |    |                |                |    |                |                |    |                |                |    |                |                |    |                |                |     |          |           |    |               |                |    |                |                |    |                |                |    |               |                |    |               |                |    |               |                |    |               |                |    |               |                |    |                |                |     |               |               |     |               |               |     |               |               |     |               |                |     |               |                |     |               |                |     |                |                |     |                |                |     |                |                |     |                |                |  |
| 2.   | 22°48'11.60" N   | 69°32'55.01" E   |         |          |           |    |                |                |    |               |                |    |                |                |    |                |                |    |                |                |    |                |                |    |                |                |     |          |           |    |               |                |    |                |                |    |                |                |    |               |                |    |               |                |    |               |                |    |               |                |    |               |                |    |                |                |     |               |               |     |               |               |     |               |               |     |               |                |     |               |                |     |               |                |     |                |                |     |                |                |     |                |                |     |                |                |  |
| 3.   | 22°48'11.55" N   | 69°33'21.75" E   |         |          |           |    |                |                |    |               |                |    |                |                |    |                |                |    |                |                |    |                |                |    |                |                |     |          |           |    |               |                |    |                |                |    |                |                |    |               |                |    |               |                |    |               |                |    |               |                |    |               |                |    |                |                |     |               |               |     |               |               |     |               |               |     |               |                |     |               |                |     |               |                |     |                |                |     |                |                |     |                |                |     |                |                |  |
| 4.   | 22°48'1.78" N  | 69°33'24.93" E   |         |          |           |    |                |                |    |               |                |    |                |                |    |                |                |    |                |                |    |                |                |    |                |                |     |          |           |    |               |                |    |                |                |    |                |                |    |               |                |    |               |                |    |               |                |    |               |                |    |               |                |    |                |                |     |               |               |     |               |               |     |               |               |     |               |                |     |               |                |     |               |                |     |                |                |     |                |                |     |                |                |     |                |                |  |
| 5.   | 22°48'2.30" N  | 69°33'21.93" E   |         |          |           |    |                |                |    |               |                |    |                |                |    |                |                |    |                |                |    |                |                |    |                |                |     |          |           |    |               |                |    |                |                |    |                |                |    |               |                |    |               |                |    |               |                |    |               |                |    |               |                |    |                |                |     |               |               |     |               |               |     |               |               |     |               |                |     |               |                |     |               |                |     |                |                |     |                |                |     |                |                |     |                |                |  |
| 6.   | 22°46'2.35" N  | 69°33'19.30" E   |         |          |           |    |                |                |    |               |                |    |                |                |    |                |                |    |                |                |    |                |                |    |                |                |     |          |           |    |               |                |    |                |                |    |                |                |    |               |                |    |               |                |    |               |                |    |               |                |    |               |                |    |                |                |     |               |               |     |               |               |     |               |               |     |               |                |     |               |                |     |               |                |     |                |                |     |                |                |     |                |                |     |                |                |  |
| 7.   | 22°46'1.37" N  | 69°33'18.18" E   |         |          |           |    |                |                |    |               |                |    |                |                |    |                |                |    |                |                |    |                |                |    |                |                |     |          |           |    |               |                |    |                |                |    |                |                |    |               |                |    |               |                |    |               |                |    |               |                |    |               |                |    |                |                |     |               |               |     |               |               |     |               |               |     |               |                |     |               |                |     |               |                |     |                |                |     |                |                |     |                |                |     |                |                |  |
| 8.   | 22°46'0.35" N  | 69°33'15.44" E   |         |          |           |    |                |                |    |               |                |    |                |                |    |                |                |    |                |                |    |                |                |    |                |                |     |          |           |    |               |                |    |                |                |    |                |                |    |               |                |    |               |                |    |               |                |    |               |                |    |               |                |    |                |                |     |               |               |     |               |               |     |               |               |     |               |                |     |               |                |     |               |                |     |                |                |     |                |                |     |                |                |     |                |                |  |
| 9.   | 22°47'59.49" N   | 69°33'14.33" E   |         |          |           |    |                |                |    |               |                |    |                |                |    |                |                |    |                |                |    |                |                |    |                |                |     |          |           |    |               |                |    |                |                |    |                |                |    |               |                |    |               |                |    |               |                |    |               |                |    |               |                |    |                |                |     |               |               |     |               |               |     |               |               |     |               |                |     |               |                |     |               |                |     |                |                |     |                |                |     |                |                |     |                |                |  |
| 10.  | 22°48'8.25" N  | 69°33'5.08" E  |         |          |           |    |                |                |    |               |                |    |                |                |    |                |                |    |                |                |    |                |                |    |                |                |     |          |           |    |               |                |    |                |                |    |                |                |    |               |                |    |               |                |    |               |                |    |               |                |    |               |                |    |                |                |     |               |               |     |               |               |     |               |               |     |               |                |     |               |                |     |               |                |     |                |                |     |                |                |     |                |                |     |                |                |  |
| 11.  | 22°48'8.75" N  | 69°33'2.53" E  |         |          |           |    |                |                |    |               |                |    |                |                |    |                |                |    |                |                |    |                |                |    |                |                |     |          |           |    |               |                |    |                |                |    |                |                |    |               |                |    |               |                |    |               |                |    |               |                |    |               |                |    |                |                |     |               |               |     |               |               |     |               |               |     |               |                |     |               |                |     |               |                |     |                |                |     |                |                |     |                |                |     |                |                |  |
| 12.  | 22°48'7.99" N  | 69°33'0.27" E  |         |          |           |    |                |                |    |               |                |    |                |                |    |                |                |    |                |                |    |                |                |    |                |                |     |          |           |    |               |                |    |                |                |    |                |                |    |               |                |    |               |                |    |               |                |    |               |                |    |               |                |    |                |                |     |               |               |     |               |               |     |               |               |     |               |                |     |               |                |     |               |                |     |                |                |     |                |                |     |                |                |     |                |                |  |
| 13.  | 22°48'9.03" N  | 69°32'55.95" E   |         |          |           |    |                |                |    |               |                |    |                |                |    |                |                |    |                |                |    |                |                |    |                |                |     |          |           |    |               |                |    |                |                |    |                |                |    |               |                |    |               |                |    |               |                |    |               |                |    |               |                |    |                |                |     |               |               |     |               |               |     |               |               |     |               |                |     |               |                |     |               |                |     |                |                |     |                |                |     |                |                |     |                |                |  |
| 14.  | 22°48'7.84" N  | 69°32'52.95" E   |         |          |           |    |                |                |    |               |                |    |                |                |    |                |                |    |                |                |    |                |                |    |                |                |     |          |           |    |               |                |    |                |                |    |                |                |    |               |                |    |               |                |    |               |                |    |               |                |    |               |                |    |                |                |     |               |               |     |               |               |     |               |               |     |               |                |     |               |                |     |               |                |     |                |                |     |                |                |     |                |                |     |                |                |  |
| 15.  | 22°48'8.18" N  | 69°32'48.86" E   |         |          |           |    |                |                |    |               |                |    |                |                |    |                |                |    |                |                |    |                |                |    |                |                |     |          |           |    |               |                |    |                |                |    |                |                |    |               |                |    |               |                |    |               |                |    |               |                |    |               |                |    |                |                |     |               |               |     |               |               |     |               |               |     |               |                |     |               |                |     |               |                |     |                |                |     |                |                |     |                |                |     |                |                |  |
| 16.  | 22°47'46.06" N   | 69°32'33.01" E   |         |          |           |    |                |                |    |               |                |    |                |                |    |                |                |    |                |                |    |                |                |    |                |                |     |          |           |    |               |                |    |                |                |    |                |                |    |               |                |    |               |                |    |               |                |    |               |                |    |               |                |    |                |                |     |               |               |     |               |               |     |               |               |     |               |                |     |               |                |     |               |                |     |                |                |     |                |                |     |                |                |     |                |                |  |
| 17.  | 22°47'43.20" N   | 69°32'16.50" E   |         |          |           |    |                |                |    |               |                |    |                |                |    |                |                |    |                |                |    |                |                |    |                |                |     |          |           |    |               |                |    |                |                |    |                |                |    |               |                |    |               |                |    |               |                |    |               |                |    |               |                |    |                |                |     |               |               |     |               |               |     |               |               |     |               |                |     |               |                |     |               |                |     |                |                |     |                |                |     |                |                |     |                |                |  |
| 18.  | 22°47'45.06" N   | 69°32'15.79" E   |         |          |           |    |                |                |    |               |                |    |                |                |    |                |                |    |                |                |    |                |                |    |                |                |     |          |           |    |               |                |    |                |                |    |                |                |    |               |                |    |               |                |    |               |                |    |               |                |    |               |                |    |                |                |     |               |               |     |               |               |     |               |               |     |               |                |     |               |                |     |               |                |     |                |                |     |                |                |     |                |                |     |                |                |  |
| 19.  | 22°47'45.40" N   | 69°32'12.49" E   |         |          |           |    |                |                |    |               |                |    |                |                |    |                |                |    |                |                |    |                |                |    |                |                |     |          |           |    |               |                |    |                |                |    |                |                |    |               |                |    |               |                |    |               |                |    |               |                |    |               |                |    |                |                |     |               |               |     |               |               |     |               |               |     |               |                |     |               |                |     |               |                |     |                |                |     |                |                |     |                |                |     |                |                |  |
| iv)  | Elevation of the project site                                    | 6m above MSL   |         |          |           |    |                |                |    |               |                |    |                |                |    |                |                |    |                |                |    |                |                |    |                |                |     |          |           |    |               |                |    |                |                |    |                |                |    |               |                |    |               |                |    |               |                |    |               |                |    |               |                |    |                |                |     |               |               |     |               |               |     |               |               |     |               |                |     |               |                |     |               |                |     |                |                |     |                |                |     |                |                |     |                |                |  |
| v)   | Involvement of Forest land if any.                               | The project site land (pockets) of APSEZL, on which the proposed project will be established is a diverted forest area, for which approvals have been obtained.  | -       |          |           |    |                |                |    |               |                |    |                |                |    |                |                |    |                |                |    |                |                |    |                |                |     |          |           |    |               |                |    |                |                |    |                |                |    |               |                |    |               |                |    |               |                |    |               |                |    |               |                |    |                |                |     |               |               |     |               |               |     |               |               |     |               |                |     |               |                |     |               |                |     |                |                |     |                |                |     |                |                |     |                |                |  |
| vi)  | Water body exists within the project site as well as study area. | <p><b>Project Site:</b><br/>Not existing within the proposed location.</p> <p><b>Study Area:</b></p> <ul style="list-style-type: none"> <li>• Nagavanti River ~ 6.95 km (NE) away from Pocket-1 and Khari river ~ 3.31km (N) away from Pocket-3.</li> <li>• Jarpara Lake – 6.95 km (ENE) from Pocket 1</li> <li>• The pockets 1&amp;2 are closer to the creek of Gulf of Kachchh.<br/>(Gulf of Kachchh: 4-5kms).</li> </ul>  |         |          |           |    |                |                |    |               |                |    |                |                |    |                |                |    |                |                |    |                |                |    |                |                |     |          |           |    |               |                |    |                |                |    |                |                |    |               |                |    |               |                |    |               |                |    |               |                |    |               |                |    |                |                |     |               |               |     |               |               |     |               |               |     |               |                |     |               |                |     |               |                |     |                |                |     |                |                |     |                |                |     |                |                |  |

| S No                | Particulars  | Details  | Remarks      |               |           |        |                |      |    |          |                     |     |     |              |             |      |     |          |             |      |     |          |              |      |     |          |  |
|---------------------|--|--|--------------|---------------|-----------|--------|----------------|------|----|----------|---------------------|-----|-----|--------------|-------------|------|-----|----------|-------------|------|-----|----------|--------------|------|-----|----------|--|
| vii)                | Existence of ESZ/ESA/national park/wildlife sanctuary/ biosphere reserve/ tiger reserve/ elephant reserve etc. if any within the study area. | None<br><br><b>Details on Reserved Forest in the study area</b>  |              |               |           |        |                |      |    |          |                     |     |     |              |             |      |     |          |             |      |     |          |              |      |     |          |  |
|                     |  | <table border="1"> <thead> <tr> <th>Description</th> <th>Distance (km)</th> <th>Direction</th> <th>Pocket</th> </tr> </thead> <tbody> <tr> <td>Mundra DHOA RF</td> <td>1.45</td> <td>NE</td> <td>Pocket 1</td> </tr> <tr> <td>Mundra Mangroves RF</td> <td>---</td> <td>---</td> <td>Pocket 1 &amp; 2</td> </tr> <tr> <td>Siracha R F</td> <td>1.16</td> <td>NNE</td> <td>Pocket 3</td> </tr> <tr> <td>Navinal R F</td> <td>2.47</td> <td>NNE</td> <td>Pocket 1</td> </tr> <tr> <td>Danderi R.F.</td> <td>1.81</td> <td>NNE</td> <td>Pocket 3</td> </tr> </tbody> </table> | Description  | Distance (km) | Direction | Pocket | Mundra DHOA RF | 1.45 | NE | Pocket 1 | Mundra Mangroves RF | --- | --- | Pocket 1 & 2 | Siracha R F | 1.16 | NNE | Pocket 3 | Navinal R F | 2.47 | NNE | Pocket 1 | Danderi R.F. | 1.81 | NNE | Pocket 3 |  |
| Description         | Distance (km)  | Direction  | Pocket       |               |           |        |                |      |    |          |                     |     |     |              |             |      |     |          |             |      |     |          |              |      |     |          |  |
| Mundra DHOA RF      | 1.45   | NE   | Pocket 1     |               |           |        |                |      |    |          |                     |     |     |              |             |      |     |          |             |      |     |          |              |      |     |          |  |
| Mundra Mangroves RF | ---  | ---  | Pocket 1 & 2 |               |           |        |                |      |    |          |                     |     |     |              |             |      |     |          |             |      |     |          |              |      |     |          |  |
| Siracha R F         | 1.16   | NNE  | Pocket 3     |               |           |        |                |      |    |          |                     |     |     |              |             |      |     |          |             |      |     |          |              |      |     |          |  |
| Navinal R F         | 2.47   | NNE  | Pocket 1     |               |           |        |                |      |    |          |                     |     |     |              |             |      |     |          |             |      |     |          |              |      |     |          |  |
| Danderi R.F.        | 1.81   | NNE  | Pocket 3     |               |           |        |                |      |    |          |                     |     |     |              |             |      |     |          |             |      |     |          |              |      |     |          |  |
| viii)               | Interlinked Project, if any, with status   | The proposed ‘Coal to PVC’ project is an integrated project, as the product of one plant is used as raw material for the downstream plants.  |              |               |           |        |                |      |    |          |                     |     |     |              |             |      |     |          |             |      |     |          |              |      |     |          |  |

48.17.4 The unit configuration and capacity of proposed project pertaining to Industry 1 sector is given as below:

| S No | Plant Name      | Configuration | Plant Capacity                        |
|------|-----------------|---------------|---------------------------------------|
| i.   | Semi-Coke Plant | 4 lines       | 2030 KTPA                             |
| ii.  | Cement Plant    | 2 lines       | Cement: 6 MTPA and<br>Clinker: 4 MTPA |

48.17.5 The details of the raw material requirement for the proposed project along with its source and mode of transportation is given as below:

| S No | Plant           | Raw material                 | Quantity       | Source  | Distance         | Means of Transportation |
|------|-----------------|------------------------------|----------------|---|------------------|-------------------------|
| i.   | Semi Coke Plant | Coal                         | 5.5 MTPA       | Domestic or Imported: from Jetty to Plant               | 5 kms            | Conveyor                |
| ii.  | Cement          | Carbide Lime Sludge          | 5.7 MTPA (wet) | Acetylene Plant (Coal to PVC Project)                   | 2 kms            | Conveyor                |
|      |                 | Fly Ash                      | 2.4 MTPA       | Mundra Power Plant                                      | 5 kms            | Road                    |
|      |                 | Copper Slag                  | 0.2 MTPA       | Copper Smelter Plant                                    | 6-7 kms          | Road                    |
|      |                 | Phosphogypsum                | 0.3 MTPA       | Copper Smelter Plant                                    | 6-7 kms          | Road                    |
|      |                 | Iron Ore/Bauxite/Silica Sand | 0.3 MTPA       | a) GMDC Mine Wandh to Plant<br>b) Silica Sand from Bhuj | 60 kms<br>50 kms | Road                    |
|      |                 | Limestone                    | 0.2 MTPA       | a) Mudhvay mine to Cement plant<br>b) From CtPVC Plant  | ~160 km<br>~5 km | By Road                 |

| S No | Plant | Raw material | Quantity | Source  | Distance        | Means of Transportation |
|------|-------|--------------|----------|---|-----------------|-------------------------|
|      |       | Gypsum       | 0.3 MTPA | a) Imported from Jetty to Plant<br>b) Domestic: Bhuj to Plant | 5 kms<br>60 kms | Road                    |
|      |       | Coal         | 1.3 MTPA | Imported Coal (Jetty to Plant)                                | ~5 Km           | By Road                 |

48.17.6 The water requirement for the entire integrated project is estimated as 160,000 m<sup>3</sup>/day [160 Million Liters per day (MLD)], which will be supplied from desalination plant of APSEZL. Out of which, 16,320 m<sup>3</sup>/day will be utilized for semi coke plant and 3,000 m<sup>3</sup>/day for cement plant.

48.17.7 The power requirement for the project is estimated as 2,000 MW, which will be supplied by the DISCOM from APSEZL. Of which about 23 MW will be required for Semi-Coke Plant and 49 MW for Cement Plant.

48.17.8 The capital cost of the project is Rs. 34,900 Crores and the capital cost for environmental protection measures is proposed as Rs. 1,056 Crores. The employment generation (during construction and operation phase) from the proposed project is ~ 20,600.

48.17.9 It has been reported by PP that, there is no violation under EIA Notification, 2006/court case/show cause/direction related to the project under consideration.

48.17.10 Name of the EIA Consultant: M/s. Kadam Environmental Consultants [S. No. 20, List of ACOs with their Certificate / Extension Letter no. Rev. 15, October 11, 2021].

48.17.11 Proposed Terms of Reference (**Baseline data collection period: Summer season, 2021**):

| S No     | Attributes                       | Sampling        |   | Remarks                                     |
|----------|----------------------------------|-----------------|---|---|
|          |                                  | No. of Stations | Frequency   |   |
| <b>A</b> | <b>Air</b>                       |                 |   |   |
| a.       | Meteorological parameters        | 1               | Hourly data collection for 12 weeks                                 |   |
| b.       | AAQ parameters                   | 12              | 24 hours, twice in a week, for total 12 weeks                       | NAAQS parameters, Sector specific parameter |
| <b>B</b> | <b>Noise</b>                     | 8               | 24 hourly data collection; once during the entire monitoring season |   |
| <b>C</b> | <b>Water</b>                     |                 |   |   |
| a.       | Surface water quality parameters | 8               | Once during the entire monitoring season                            |   |

| S No     | Attributes                       | Sampling                   |  | Remarks                       |
|----------|----------------------------------|----------------------------|--|-------------------------------|
|          |                                  | No. of Stations            | Frequency                                |                               |
| b.       | Ground water quality parameters  | 8                          | Once during the entire monitoring season |                               |
| <b>D</b> | <b>Land</b>                      |                            |  |                               |
| a.       | Soil Quality                     | 10                         | Once during the entire monitoring season |                               |
| b.       | Land use                         | Study area of 10 km radius | Once during the entire monitoring season |                               |
| <b>E</b> | <b>Biological</b>                |                            |  |                               |
| a.       | Aquatic                          | 16                         | Once during the entire monitoring season | Marine Samples were collected |
| b.       | Terrestrial                      | Study area of 10 km radius | Once during the entire monitoring season |                               |
| <b>F</b> | <b>Socio-economic parameters</b> | Study area of 10 km radius | Once during the entire monitoring season |                               |

48.17.12 The proposal was first considered during the 46<sup>th</sup> meeting of the Re-constituted EAC (Industry-I) held on 11-12<sup>th</sup> October, 2021. The observations and recommendations of the EAC is as follows:

**Observations of the Committee (EAC during 11-12<sup>th</sup> October, 2021)**

48.17.13 The EAC noted the following:

- i. TOR is required for undertaking EIA study for an integrated complex to manufacture PVC from Coal. There are two units that fall under the purview of Industry 1 sector i.e., Coke making and Cement Plant.
- ii. Dry Carbide lime sludge shall be calcined in presence of LS and other additives to make 4 MTPA clinker for making 6 MTPA Cement.
- iii. Semi Coke is produced in Vertical Furnace having 40 chambers. Coking gas shall be cleaned for tar, ammonia, naphthalene, BTX and used to manufacture Ethylene glycol.
- iv. 2.03 MTPA coke shall be quenched wet. MoEF&CC guidelines mandates that CDQ for coke production of more than 0.8 MTPA. Process flow sheet of coke plant has not been made available. No details of the proposed technology for coke production and for pollution control in coking plant have been furnished with proposal.
- v. It is not clear as to how the charging emissions, coke discharge emissions, coking emissions in Coking Plant shall be controlled.
- vi. Technology and Environmental management details of Cement Kiln using Carbide Plant sludge have also not been furnished.
- vii. Most of the sections in Form I application has not been quantified properly which needs to be revisited and corrected.

**Recommendations of the Committee (EAC during 11-12<sup>th</sup> October, 2021)**

48.17.14 In view of the foregoing and after deliberations, the Committee recommended to submit additional information to address the shortcomings at para no. 48.17.13 above.

48.17.15 The proponent submitted the ADS reply on PARIVESH on 25/10/2021. The information furnished by proponent is as follows:

| Sl. No. | Observations / ADS by EAC   | ADS Reply  |
|---------|---|--|
| (i)     | TOR is required for undertaking EIA study for an integrated complex to manufacture PVC from Coal. There are two units that fall under the purview of Industry 1 sector i.e., Coke making and Cement Plant   | The ToR application for Coal to PVC Project vide proposal No. IA/GJ/IND/230852/2021 was submitted to EAC Industry-I on dated 23 <sup>rd</sup> September 2021.<br>The EAC has appraised the project for Semi-Coke plant (2.03 MTPA), Clinker (4 MTPA and Cement Plant (6.0 MTPA) for prescribing ToR during the 46 <sup>th</sup> Meeting of EAC on dated 12/10/2021.  |
| (ii)    | Dry Carbide lime sludge shall be calcined in presence of LS and other additives to make 4 MTPA clinker for making 6 MTPA Cement   | In the Acetylene Generator Unit, Carbide lime sludge generated has 30% moisture content. The moisture in the carbide lime sludge is further dried to 5-7% moisture using waste heat available in hot gases emitted from the pyro process. The semi-dry carbide lime sludge and correctives shall be mixed in a mixing chamber, in desired proportion as per designed raw mix, which is fed to raw mill for further drying & fine grinding of raw materials |
| (iii)   | Semi Coke is produced in Vertical Furnace having 40 chambers. Coking gas shall be cleaned for tar, ammonia, naphthalene, BTX and used to manufacture Ethylene glycol  | Agreed. The semi-coke is generated in the vertical furnaces. Each vertical furnace has 40 chambers.<br>The coking gas is further cleaned to produce/manufacture saleable products such as tar, ammonium sulphate, crude benzol, sulphur.<br>A part of the coking gas from the semi-coke plant will also be used to manufacture Ethylene Glycol.  |
| (iv)    | 2.03 MTPA coke shall be quenched wet. MoEF&CC guidelines mandates that CDQ for coke production of more than 0.8 MTPA. Process flow sheet of coke plant has not been made available. No details of the proposed technology for coke production and | The details for coke quenching process, vertical furnace is submitted by proponent. The environmental aspects, impacts and mitigation measures of the Semi-Coke Plant have been detailed in the ADS reply by the proponent.  |

| Sl. No. | Observations / ADS by EAC  | ADS Reply   |
|---------|--|---|
|         | for pollution control in coking plant have been furnished with proposal  |   |
| (v)     | It is not clear as to how the charging emissions, coke discharge emissions, coking emissions in Coking Plant shall be controlled | The detail of coal charging and coke discharging mechanism; and their associated emissions and mitigation measures is submitted by proponent. |
| (vi)    | Technology and Environmental management details of Cement Kiln using Carbide Plant sludge have also not been furnished           | The technological and environmental management detail of cement kiln (using carbide lime sludge plant) is submitted by proponent.             |
| (vii)   | Most of the sections in Form I application has not been quantified properly which needs to be revisited and corrected.           | Revised Form I has been submitted.  |

48.17.16 Based on the submission of project proponent, the proposal was re-considered by **REAC (Industry 1) in its 47<sup>th</sup> meeting held on 28-29<sup>th</sup> October, 2021**. The observations and recommendations of EAC is given as below:

**Observations of the Committee (EAC during 28-29<sup>th</sup> October, 2021)**

- 48.17.17 The EAC noted the following from the ADS reply of the project proponent.
- i. List of installation of such facilities and case example of flow sheet, details of emissions and discharges have not been furnished for coke ovens.
  - ii. The proposed coke oven does not meet the Indian requirement of dry coke quenching.
  - iii. There is no mention about charging emission, discharging emission control and control of emissions from off takes and lids of semi coke plant.

**Recommendations of the Committee (EAC during 28-29<sup>th</sup> October, 2021)**

- 48.17.18 In view of the foregoing and after deliberations, the Committee sought the following additional information from the proponent for further consideration.
- i. Technology proposed for semi Coke plant is not conventional and details of the actual environmental emissions from operational units using the technology which has not been made available.
  - ii. Actual environmental emissions from operational units using the technology cited above vis-a-vis compliance with the existing environmental norms notified under E(P) Act, 1986 which have not been provided by the project proponent.

48.17.19 The proponent submitted the ADS reply vide letter dated 09/11/2021 as follows:

| Sl. No.                   | Observations/ADS by EAC   | ADS Reply   |
|---------------------------|---|---|
| <b>Observation of EAC</b> |   |   |
| i.                        | List of installation of such facilities and case example of flow sheet, details of emissions and discharges | List of facilities operating across globe is submitted by PP along-with the ADS reply. Details of emissions / discharge are not available as operational facilities are |

| Sl. No.           | Observations/ADS by EAC   | ADS Reply  |
|-------------------|---|--|
|                   | have not been furnished for coke ovens  | reluctant to share information with outside international party.   |
| ii.               | The proposed coke oven does not meet the Indian requirement of dry coke quenching   | Proposed technology is wet quenching. For wet quenching, China National Emission and discharge Standards is submitted by PP for EAC reference and comparing with Indian standards.   |
| iii.              | There is no mention about charging emission, discharging emission control and control of emissions from off takes and lids of semi coke plant   | <p>Coal charging and semi-coke discharging are done with the arrangement of hydraulically controlled automatic coal charging/semi-coke discharging devices. The coal is charged to the overhead bunker located on the top of oven, through a belt conveyor from the coal yard after sizing and screening in the silos. From the bunker the coal is charged to the individual oven through chute with hydraulically controlled gates. The coal charging system in the vertical furnace is a closed system and the fine dust generated within the system are connected to the bag filter systems and the discharge of the filter bag system are connected to the stack. The fine coal dust collected in the bag filter system is recycled back to coal yard to be used in vertical furnace.</p> <p>The semi-coke discharged from the bottom of the furnace after cooling with treated wastewater. Cooled coke containing moisture / slightly wet, is transferred to the semi-coke storage area through closed conveying systems in the semi-coke storage systems. Hence, semi-coke dust generation is almost eliminated.</p> <p>The whole closing and opening of gates is hydraulically operated and controlled with the help of PLC and SCDA system</p> |
| <b>ADS by EAC</b> |   |  |
| i.                | Technology proposed for semi Coke plant is not conventional and details of the actual environmental emissions from operational units using the technology which has not been made available | Several units based on proposed technology are in operational in China and other countries. PP contacted to operational facilities for sharing their actual environmental emissions / discharge, but they are reluctant to share their internal real-time data to international outside party; however, they informed PP that  |

| Sl. No. | Observations/ADS by EAC   | ADS Reply   |
|---------|---|---|
|         |   | actual environmental emissions real-time data are directly being transmitted to the China Environmental Protection Agency vide continuously monitoring systems installed by the facilities and they have also confirmed that the actual emissions are lesser than the standards stipulated by Chinese Government.   |
| ii.     | Actual environmental emissions from operational units using the technology cited above vis-a-vis compliance with the existing environmental norms notified under E(P) Act, 1986 which have not been provided by the project proponent | As mentioned in the reply of point 1 above that operational facilities in China are reluctant to share their internal data to international outside party, so the project proponent, in spite of best available resources, is unable to provide actual information to the MoEF&CC.<br>Secondly, since proposed technology is not operational in India, so emission standards for the proposed technology are also not available under E (P) Act 1986. However, project proponent shall comply with environmental emissions / discharge standards stipulated for "Coke-Oven" notified under 31 <sup>st</sup> March 2012 under E(P) Act 1986, the China National Emission Standard or whichever is more stringent. For reference, both the standards are submitted along with ADS reply.<br>Thirdly, since detailed engineering and process design is in progress; once detailed engineering is completed, more details would be provided in the final EIA report, if desired so. |
| iii.    | Number of similar Industries across globe   | Number of similar industries across globe are more than 80 Numbers.<br>For reference, an exhaustive list is submitted by PP along-with the ADS reply.   |

48.17.20 Based on the ADS reply dated 09/11/2021, the proposal is re-considered in the 48<sup>th</sup> meeting of the Re-constituted EAC (Industry-I) held on 11 – 12<sup>th</sup> November, 2021. The observation and recommendation is given as below:

**Observations of the Committee**

48.17.21 The EAC noted the following:

- i. TOR is being sought for undertaking EIA study for proposed semi coke unit of 2030 KTPA, Cement plant of 6.0 MTPA and Clinker of 4.0 MTPA at Village Vandh & Taluka Mundra District Kutch, Gujarat.

- ii. The proposal was considered in EAC meeting held on 28-29<sup>th</sup> October, 2021 in which proposal was deferred for additional information.
- iii. Proponent submitted ADS reply on 09/11/2021. The Committee was of the view that validation of technology proposed for semi coke unit needs to be carried out by a reputed organization in order to evaluate pollution issues arising out of the unit and conformity to the Indian standards.

#### **Recommendations of the Committee**

48.17.22 After deliberations, the Committee recommended the project proposal for prescribing following specific ToRs for undertaking detailed EIA and EMP study in addition to the generic ToR enclosed at Annexure-1 read with additional ToRs for coke oven and integrated cement plant at Annexure-2.

- i. Cumulative impact of all the interlinked project shall be carried out. Provisions contained in the MoEF&CC circular dated 24/12/2010 pertaining to consideration of interlinked project shall be adhered with.
- ii. Project proponent shall undertake a study on validation of technology proposed for semi coke unit by a reputed organization to evaluate all the environment concerns arising out of the project activities and their conformity to the Indian standards issued vide G.S.R 277 (E) dated 31<sup>st</sup> March 2012 pertaining to Coke Oven Plants and the same shall be submitted. In addition to this, the environment concerns if any, not covered under the purview of Indian standard shall also be enumerated in the report to be submitted. In case the proposed project is unable to meet the Indian standards, the project proponent shall obtain the views of CPCB regarding the same.
- iii. Project proponent shall submit detailed action plan to meet Indian Standards for PLL, PLD, PLO, Charging Emissions and Pushing emissions as per G.S.R 277 (E) dated 31<sup>st</sup> March 2012 pertaining to Coke Oven Plants.
- iv. PP shall explore the possibility of using Coke Dry Quenching and action plan in this regard shall be submitted.
- v. Comprehensive risk assessment study for the entire complex shall be carried out and submitted,
- vi. Separate chapter on cyclone/ disaster management shall be prepared and included in the EIA report.
- vii. Action plan to control odor in the carbide sludge plant shall be submitted.
- viii. CRZ mapping of the project site shall be carried out through an authorized agency inter-alia including HTL/LTL mapping, CRZ land classification along with superimposition of facilities envisaged in the project.
- ix. Socio-economic survey in the project study area that is 10 Kms radial coverage from the project site shall be carried out and included as a part of EIA report.
- x. Characteristics of the coal to be used in the plant shall be submitted along with the EIA report.
- xi. Details regarding the existence of mangroves and coral reefs if any, within the study area of the project site along with the conservation plan shall be included in the EIA report.
- xii. Action plan to limit the dust emission from all the stacks below 30 mg/Nm<sup>3</sup> shall be furnished.
- xiii. Action plan for fugitive emission control in the plant premises shall be provided.
- xiv. Action plan for 100 % solid waste utilization shall be submitted.

- xv. Action plan for the stock piles with impervious floor, provision of garland drains and catch pits to trap run off material shall be submitted.
- xvi. AAQ modelling shall be done considering proximity to the coast and riverine ecology.
- xvii. Traffic study shall be carried out inter-alia including existing road details with traffic load, proposed quantum of material to be transported by sea/rail/road with anticipated vessels/rakes/vehicles details, line source modelling and infrastructure strengthening details etc., These details shall be included in the EIA report.

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**ANNEXURE –1**

**GENERIC TERMS OF REFERENCE (ToR) IN RESPECT OF INDUSTRY SECTOR**

1. **Executive Summary**
2. **Introduction**
  - i. Details of the EIA Consultant including NABET accreditation
  - ii. Information about the project proponent
  - iii. Importance and benefits of the project
3. **Project Description**
  - i. Cost of project and time of completion.
  - ii. Products with capacities for the proposed project.
  - iii. If expansion project, details of existing products with capacities and whether adequate land is available for expansion, reference of earlier EC if any.
  - iv. List of raw materials required and their source along with mode of transportation.
  - v. Other chemicals and materials required with quantities and storage capacities
  - vi. Details of Emission, effluents, hazardous waste generation and their management.
  - vii. Requirement of water, power, with source of supply, status of approval, water balance diagram, man-power requirement (regular and contract)
  - viii. The project proponent shall furnish the requisite documents from the competent authority in support of drawl of ground water and surface water and supply of electricity.
  - ix. Process description along with major equipment and machineries, process flow sheet (Quantitative) from raw material to products to be provided
  - x. Hazard identification and details of proposed safety systems.
  - xi. Expansion/modernization proposals:
    - a. Copy of all the Environmental Clearance(s) including Amendments thereto obtained for the project from MoEF&CC/SEIAA shall be attached as an Annexure. A certified copy of the latest Monitoring Report of the Regional Office of the Ministry of Environment, Forest and Climate Change as per circular dated 30<sup>th</sup> May, 2012 on the status of compliance of conditions stipulated in all the existing environmental clearances including Amendments shall be provided. In addition, status of compliance of Consent to Operate for the ongoing /existing operation of the project from SPCB/PCC shall be attached with the EIA-EMP report.
    - b. In case the existing project has not obtained environmental clearance, reasons for not taking EC under the provisions of the EIA Notification 1994 and/or EIA Notification 2006 shall be provided. Copies of Consent to Establish/No Objection Certificate and Consent to Operate (in case of units operating prior to EIA Notification 2006, CTE and CTO of FY 2005-2006) obtained from the SPCB shall be submitted. Further, compliance report to the conditions of consents from the SPCB shall be submitted.
4. **Site Details**
  - i. Location of the project site covering village, Taluka/Tehsil, District and State, Justification for selecting the site, whether other sites were considered.

- ii. A toposheet of the study area of radius of 10km and site location on 1:50,000/1:25,000 scale on an A3/A2 sheet. (including all eco-sensitive areas and environmentally sensitive places)
- iii. Co-ordinates (lat-long) of all four corners of the site.
- iv. Google map-Earth downloaded of the project site.
- v. Layout maps indicating existing unit as well as proposed unit indicating storage area, plant area, greenbelt area, utilities etc. If located within an Industrial area/Estate/Complex, layout of Industrial Area indicating location of unit within the Industrial area/Estate.
- vi. Photographs of the proposed and existing (if applicable) plant site. If existing, show photographs of plantation/greenbelt, in particular.
- vii. Landuse break-up of total land of the project site (identified and acquired), government/private - agricultural, forest, wasteland, water bodies, settlements, etc shall be included. (not required for industrial area)
- viii. A list of major industries with name and type within study area (10km radius) shall be incorporated. Land use details of the study area
- ix. Geological features and Geo-hydrological status of the study area shall be included.
- x. Details of Drainage of the project upto 5km radius of study area. If the site is within 1 km radius of any major river, peak and lean season river discharge as well as flood occurrence frequency based on peak rainfall data of the past 30 years. Details of Flood Level of the project site and maximum Flood Level of the river shall also be provided. (mega green field projects)
- xi. Status of acquisition of land. If acquisition is not complete, stage of the acquisition process and expected time of complete possession of the land.
- xii. R&R details in respect of land in line with state Government policy.

**5. Forest and wildlife related issues (if applicable):**

- i. Permission and approval for the use of forest land (forestry clearance), if any, and recommendations of the State Forest Department. (if applicable).
- ii. Land use map based on High resolution satellite imagery (GPS) of the proposed site delineating the forestland (*in case of projects involving forest land more than 40 ha*).
- iii. Status of Application submitted for obtaining the stage I forestry clearance along with latest status shall be submitted.
- iv. The projects to be located within 10 km of the National Parks, Sanctuaries, Biosphere Reserves, Migratory Corridors of Wild Animals, the project proponent shall submit the map duly authenticated by Chief Wildlife Warden showing these features vis-à-vis the project location and the recommendations or comments of the Chief Wildlife Warden-thereon.
- v. Wildlife Conservation Plan duly authenticated by the Chief Wildlife Warden of the State Government for conservation of Schedule I fauna, if any exists in the study area.
- vi. Copy of application submitted for clearance under the Wildlife (Protection) Act, 1972, to the Standing Committee of the National Board for Wildlife.

**6. Environmental Status**

- i. Determination of atmospheric inversion level at the project site and site-specific micro-meteorological data using temperature, relative humidity, hourly wind speed and direction and rainfall.
- ii. AAQ data (except monsoon) at 8 locations for PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub>, NO<sub>x</sub>, CO and other parameters relevant to the project shall be collected. The monitoring stations shall be based CPCB guidelines and take into account the pre-dominant wind direction, population zone and sensitive receptors including reserved forests.
- iii. Raw data of all AAQ measurement for 12 weeks of all stations as per frequency given in the NAQQM Notification of Nov. 2009 along with – min., max., average and 98% values for each of the AAQ parameters from data of all AAQ stations should be provided as an annexure to the EIA Report.
- iv. Surface water quality of nearby River (60m upstream and downstream) and other surface drains at eight locations as per CPCB/MoEF&CC guidelines.
- v. Whether the site falls near to polluted stretch of river identified by the CPCB/MoEF&CC.
- vi. Ground water monitoring at minimum at 8 locations shall be included.
- vii. Noise levels monitoring at 8 locations within the study area.
- viii. Soil Characteristic as per CPCB guidelines.
- ix. Traffic study of the area, type of vehicles, frequency of vehicles for transportation of materials, additional traffic due to proposed project, parking arrangement etc.
- x. Detailed description of flora and fauna (terrestrial and aquatic) existing in the study area shall be given with special reference to rare, endemic and endangered species. If Schedule-I fauna are found within the study area, a Wildlife Conservation Plan shall be prepared and furnished.
- xi. Socio-economic status of the study area.

**7. Impact Assessment and Environment Management Plan**

- i. Assessment of ground level concentration of pollutants from the stack emission based on site-specific meteorological features. In case the project is located on a hilly terrain, the AQIP Modelling shall be done using inputs of the specific terrain characteristics for determining the potential impacts of the project on the AAQ. Cumulative impact of all sources of emissions (including transportation) on the AAQ of the area shall be well assessed. Details of the model used and the input data used for modelling shall also be provided. The air quality contours shall be plotted on a location map showing the location of project site, habitation nearby, sensitive receptors, if any.
- ii. Water Quality modelling – in case, if the effluent is proposed to be discharged in to the local drain, then Water Quality Modelling study should be conducted for the drain water taking into consideration the upstream and downstream quality of water of the drain.
- iii. Impact of the transport of the raw materials and end products on the surrounding environment shall be assessed and provided. In this regard, options for transport of raw materials and finished products and wastes (large quantities) by rail or rail-cum road transport or conveyor-cum-rail transport shall be examined.

- iv. A note on treatment of wastewater from different plant operations, extent recycled and reused for different purposes shall be included. Complete scheme of effluent treatment. Characteristics of untreated and treated effluent to meet the prescribed standards of discharge under E(P) Rules.
- v. Details of stack emission and action plan for control of emissions to meet standards.
- vi. Measures for fugitive emission control
- vii. Details of hazardous waste generation and their storage, utilization and disposal. Copies of MOU regarding utilization of solid and hazardous waste shall also be included. EMP shall include the concept of waste-minimization, recycle/reuse/recover techniques, Energy conservation, and natural resource conservation.
- viii. Proper utilization of fly ash shall be ensured as per Fly Ash Notification, 2009. A detailed plan of action shall be provided.
- ix. Action plan for the green belt development plan in 33 % area i.e. land with not less than 1,500 trees per ha. Giving details of species, width of plantation, planning schedule etc. shall be included. The green belt shall be around the project boundary and a scheme for greening of the roads used for the project shall also be incorporated.
- x. Action plan for rainwater harvesting measures at plant site shall be submitted to harvest rainwater from the roof tops and storm water drains to recharge the ground water and also to use for the various activities at the project site to conserve fresh water and reduce the water requirement from other sources.
- xi. Total capital cost and recurring cost/annum for environmental pollution control measures shall be included.
- xii. Action plan for post-project environmental monitoring shall be submitted.
- xiii. Onsite and Offsite Disaster (natural and Man-made) Preparedness and Emergency Management Plan including Risk Assessment and damage control. Disaster management plan should be linked with District Disaster Management Plan.

## 8. **Occupational health**

- i. Details of existing Occupational & Safety Hazards. What are the exposure levels of above mentioned hazards and whether they are within Permissible Exposure level (PEL). If these are not within PEL, what measures the company has adopted to keep them within PEL so that health of the workers can be preserved,
- ii. Details of exposure specific health status evaluation of worker. If the workers' health is being evaluated by pre-designed format, chest x rays, Audiometry, Spirometry, Vision testing (Far & Near vision, colour vision and any other ocular defect) ECG, during pre-placement and periodical examinations give the details of the same. Details regarding last month analysed data of abovementioned parameters as per age, sex, duration of exposure and department wise.
- iii. Annual report of health status of workers with special reference to Occupational Health and Safety.
- iv. Plan and fund allocation to ensure the occupational health & safety of all contract and casual workers.

**9. Corporate Environment Policy**

- i. Does the company have a well laid down Environment Policy approved by its Board of Directors? If so, it may be detailed in the EIA report.
  - ii. Does the Environment Policy prescribe for standard operating process / procedures to bring into focus any infringement / deviation / violation of the environmental or forest norms / conditions? If so, it may be detailed in the EIA.
  - iii. What is the hierarchical system or Administrative order of the company to deal with the environmental issues and for ensuring compliance with the environmental clearance conditions? Details of this system may be given.
  - iv. Does the company have system of reporting of non-compliances / violations of environmental norms to the Board of Directors of the company and / or shareholders or stakeholders at large? This reporting mechanism shall be detailed in the EIA report
10. Details regarding infrastructure facilities such as sanitation, fuel, restroom etc. to be provided to the labour force during construction as well as to the casual workers including truck drivers during operation phase.
11. To address the Public Hearing issues, provisions contained under Ministry's Office Memorandum vide F.No. 22-65/2017-IA.III dated 30/09/2020 shall be complied.
12. Any litigation pending against the project and/or any direction/order passed by any Court of Law against the project, if so, details thereof shall also be included. Has the unit received any notice under the Section 5 of Environment (Protection) Act, 1986 or relevant Sections of Air and Water Acts? If so, details thereof and compliance/ATR to the notice(s) and present status of the case.
13. A tabular chart with index for point wise compliance of above ToRs.
14. The ToRs prescribed shall be valid for a period of three years for submission of the EIA-EMP reports along with Public Hearing Proceedings (wherever stipulated).

The following general points shall be noted:

- i. All documents shall be properly indexed, page numbered.
- ii. Period/date of data collection shall be clearly indicated.
- iii. Authenticated English translation of all material in Regional languages shall be provided.
- iv. The letter/application for environmental clearance shall quote the MOEF&CC file No. and also attach a copy of the letter.
- v. The copy of the letter received from the Ministry shall be also attached as an annexure to the final EIA-EMP Report.
- vi. The index of the final EIA-EMP report must indicate the specific chapter and page no. of the EIA-EMP Report
- vii. While preparing the EIA report, the instructions for the proponents and instructions for the consultants issued by MOEF&CC vide O.M. No. J-11013/41/2006-IA.II (I) dated 4<sup>th</sup> August, 2009, which are available on the website of this Ministry shall also be followed.
- viii. The consultants involved in the preparation of EIA-EMP report after accreditation with Quality Council of India (QCI)/National Accreditation Board of Education and Training (NABET) would need to include a certificate in this regard in the EIA-EMP reports prepared by them and data provided by other organization/Laboratories including their status of approvals etc. Name of the Consultant and the Accreditation

details shall be posted on the EIA-EMP Report as well as on the cover of the Hard Copy of the Presentation material for EC presentation.

- ix. ToRs' prescribed by the Expert Appraisal Committee (Industry) shall be considered for preparation of EIA-EMP report for the project in addition to all the relevant information as per the 'Generic Structure of EIA' given in Appendix III and IIIA in the EIA Notification, 2006. Where the documents provided are in a language other than English, an English translation shall be provided. The draft EIA-EMP report shall be submitted to the State Pollution Control Board of the concerned State for conduct of Public Hearing. The SPCB shall conduct the Public Hearing/public consultation, district-wise, as per the provisions of EIA notification, 2006. The Public Hearing shall be chaired by an Officer not below the rank of Additional District Magistrate. The issues raised in the Public Hearing and during the consultation process and the commitments made by the project proponent on the same shall be included separately in EIA-EMP Report in a separate chapter and summarized in a tabular chart with financial budget (capital and revenue) along with time-schedule of implementation for complying with the commitments made. The final EIA report shall be submitted to the Ministry for obtaining environmental clearance.

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**ANNEXURE-2**

**ADDITIONAL ToRS FOR INTEGRATED STEEL PLANT**

1. Iron ore/coal linkage documents along with the status of environmental clearance of iron ore and coal mines
2. Quantum of production of coal and iron ore from coal & iron ore mines and the projects they cater to. Mode of transportation to the plant and its impact
3. For Large ISPs, a 3-D view i.e. DEM (Digital Elevation Model) for the area in 10 km radius from the proposal site. MRL details of project site and RL of nearby sources of water shall be indicated.
4. Recent land-use map based on satellite imagery. High-resolution satellite image data having 1m-5m spatial resolution like quickbird, Ikonos, IRS P-6 pan sharpened etc. for the 10 Km radius area from proposed site. The same shall be used for land used/land-cover mapping of the area.
5. PM (PM<sub>10</sub> and P<sub>2.5</sub>) present in the ambient air must be analysed for source analysis – natural dust/RSPM generated from plant operations (trace elements) of PM<sub>10</sub> to be carried over.
6. All stock piles will have to be on top of a stable liner to avoid leaching of materials to ground water.
7. Plan for the implementation of the recommendations made for the steel plants in the CREP guidelines.
8. Plan for slag utilization
9. Plan for utilization of energy in off gases (coke oven, blast furnace)
10. System of coke quenching adopted with justification.
11. Trace metals Mercury, arsenic and fluoride emissions in the raw material.
12. Trace metals in waste material especially slag.
13. Trace metals in water
14. Details of proposed layout clearly demarcating various units within the plant.
15. Complete process flow diagram describing each unit, its processes and operations, along with material and energy inputs and outputs (material and energy balance).
16. Details on design and manufacturing process for all the units.
17. Details on environmentally sound technologies for recycling of hazardous materials, as per CPCB Guidelines, may be mentioned in case of handling scrap and other recycled materials.
18. Details on requirement of energy and water along with its source and authorization from the concerned department. Location of water intake and outfall points (with coordinates).
19. Details on toxic metal content in the waste material and its composition and end use (particularly of slag).
20. Details on toxic content (TCLP), composition and end use of slag.

### **ADDITIONAL ToRs FOR PELLET PLANT**

1. Iron ore/coal linkage documents along with the status of environmental clearance of iron ore and coal mines
2. Quantum of production of coal and iron ore from coal & iron ore mines and the projects they cater to. Mode of transportation to the plant and its impact
3. Recent land-use map based on satellite imagery. High-resolution satellite image data having 1m-5m spatial resolution like quickbird, Ikonos, IRS P-6 pan sharpened etc. for the 10 Km radius area from proposed site. The same shall be used for land used/land-cover mapping of the area.
4. PM(PM<sub>10</sub> and P<sub>2.5</sub>) present in the ambient air must be analysed for source analysis – natural dust/RSPM generated from plant operations (trace elements) of PM<sub>10</sub> to be carried over.
5. All stock piles will have to be on top of a stable liner to avoid leaching of materials to ground water.
6. Plan for the implementation of the recommendations made for the steel plants in the CREP guidelines.
7. Plan for slag utilization
8. Plan for utilization of energy in off gases (coke oven, blast furnace)
9. System of coke quenching adopted with justification.
10. Trace metals Mercury, arsenic and fluoride emissions in the raw material.
11. Trace metals in waste material especially slag.
12. Trace metals in water

### **ADDITIONAL ToRs FOR CEMENT INDUSTRY**

1. Limestone and coal linkage documents along with the status of environmental clearance of limestone and coal mines
2. Quantum of production of coal and limestone from coal & limestone mines and the projects they cater to;
3. Present land use shall be prepared based on satellite imagery. High-resolution satellite image data having 1m-5m spatial resolution like quickbird, Ikonos, IRS P-6 pan sharpened etc. for the 10 Km radius area from proposed site. The same shall be used for land used/land-cover mapping of the area.
4. If the raw materials used have trace elements, an environment management plan shall also be included.
5. Plan for the implementation of the recommendations made for the cement plants in the CREP guidelines must be prepared.
6. Energy consumption per ton of clinker and cement grinding
7. Provision of waste heat recovery boiler
8. Arrangement for co-processing of hazardous waste in cement plant.
9. Trace metals in waste material especially slag.

**ADDITIONAL ToRs FOR PULP AND PAPER INDUSTRY**

- i. A note on pulp washing system capable of handling wood pulp shall be included.
- ii. Manufacturing process details for the existing and proposed plant shall be included. Chapter on Pulping & Bleaching shall include: no black liquor spillage in the area of pulp mill; no use of elemental chlorine for bleaching in mill; installation of hypo preparation plant; no use of potcher washing and use of counter current or horizontal belt washers. Chapter on Chemical Recovery shall include: no spillage of foam in chemical recovery plant, no discharge of foul condensate generated from MEE directly to ETP; control of suspended particulate matter emissions from the stack of fluidized bed recovery boiler and ESP in lime kiln
- iii. Studies shall be conducted and a chapter shall be included to show that Soda pulping process can be employed for *Eucalyptus/Casuarina* to produce low kappa (bleachable) grade of pulp.
- iv. Commitment that only elemental Chlorine-free technology will be used for the manufacture of paper and existing plant without chemical recovery plant will be closed within 2 years of issue of environment clearance.
- v. A commitment that no extra chlorine base bleaching chemicals (more than being used now) will be employed and AOx will remain within limits as per CREP for used based mills. Plan for reduction of water consumption.

**ADDITIONAL ToRs FOR LEATHER/SKIN/HIDE PROCESSING INDUSTRY**

1. Justification for engaging a particular type of process (raw hide/skin into semi finishing or finished leather, semi-finished leather to finished leather, dry finishing operations, chrome/vegetable tanning, *etc.*).
2. Details regarding complete leather/ skin/ hide processing including the usage of sulphides, nitrogen compounds, chromium or other tanning agents, post-tanning chemicals, biocides, *etc.*, along with the material balance shall be provided.
3. In case of chrome tanning, details of the chrome recovery plant, management of shavings/solid waste including safe disposal.
4. Details on reuse of soak liquor / saline stream from membrane system, if applicable, to the extent possible in pickling activity after required treatment. Also, mention the salt recovery measures.

**ADDITIONAL ToRs FOR COKE OVEN PLANT**

1. Justification for selecting recovery/non-recovery (beehive) type batteries with the proposed unit size.
2. Details of proposed layout clearly demarcating various facilities such as coal storages, coke making, by-product recovery area, *etc* within the plant.
3. Details of coke oven plant (recovery/non-recovery type) including coal handling, coke oven battery operations, coke handling and preparation.
4. Scheme for coal changing, charging emission centre, Coke quenching technology, pushing emission control.
5. Scheme for coke oven effluent treatment plant details including scheme for meeting cyanide standard.

**ADDITIONAL ToRs FOR ASBESTOS MILLING AND ASBESTOS BASED PRODUCTS**

1. Type of the project – new/expansion/modernization
2. Type of fibres used (Asbestos and others) and preference of selection from techno-environmental angle should be furnished
3. As asbestos is used in several products and as the level of precautions differ from milling to usage in cement products, friction products gasketing, textiles and also differ with the process used, it is necessary to give process description and reasons for the choice for selection of process
4. Technology adopted, flow chart, process description and layout marking areas of potential environmental impacts
5. National standards and codes of practice in the use of asbestos particular to the industry should be furnished
6. In case of newly introduced technology, it should include the consequences of any failure of equipment/ technology and the product on environmental status.
7. In case of expansion project asbestos fibre to be measured at slack emission and work zone area, besides base line air quality.
8. In case of green field project asbestos fibre to be measured at ambient air.

**ADDITIONAL ToRs FOR METALLURGICAL INDUSTRY (FERROUS AND NON-FERROUS)**

1. Complete process flow diagram describing each unit, its processes and operations, along with material and energy inputs & outputs (material and energy balance).
2. Emission from sulphuric acid plant and sulphur muck management.
3. Details on installation of Continuous Emission Monitoring System with recording with proper calibration system
4. Details on toxic metals including fluoride emissions
5. Details on stack height.
6. Details on ash disposal and management
7. Complete process flow diagram describing process of lead/zinc/copper/ aluminium, *etc.*
8. Details on smelting, thermal refining, melting, slag fuming, and Waelz kiln operation
9. Details on Holding and de-gassing of molten metal from primary and secondary aluminium, materials pre-treatment, and from melting and smelting of secondary aluminium
10. Details on toxic metal content in the waste material and its composition and end use (particularly of slag).
11. Trace metals in waste material especially slag.
12. Plan for trace metal recovery
13. Trace metals in water

## **Executive Summary**

Executive summary of the report in about 8-10 pages incorporating the following:

- i. Project name and location (Village, Dist, State, Industrial Estate (if applicable))
- ii. Products and capacities. If expansion proposal, then existing products with capacities and reference to earlier EC.
- iii. Requirement of land, raw material, water, power, fuel, with source of supply (Quantitative)
- iv. Process description in brief, specifically indicating the gaseous emission, liquid effluent and solid and hazardous wastes. Materials balance shall be presented.
- v. Measures for mitigating the impact on the environment and mode of discharge or disposal.
- vi. Capital cost of the project, estimated time of completion
- vii. Site selected for the project – Nature of land – Agricultural (single/double crop), barren, Govt/private land, status of its acquisition, nearby (in 2-3 km.) water body, population, within 10km other industries, forest, eco-sensitive zones, accessibility, (note – in case of industrial estate this information may not be necessary)
- viii. Baseline environmental data – air quality, surface and ground water quality, soil characteristic, flora and fauna, socio-economic condition of the nearby population
- ix. Identification of hazards in handling, processing and storage of hazardous material and safety system provided to mitigate the risk.
- x. Likely impact of the project on air, water, land, flora-fauna and nearby population
- xi. Emergency preparedness plan in case of natural or in plant emergencies
- xii. Issues raised during public hearing (if applicable) and response given
- xiii. CSR plan with proposed expenditure.
- xiv. Occupational Health Measures
- xv. Post project monitoring plan

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**Email**

**Sundar Ramanathan**

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**Re: Consolidated 48 EAC MOM FOR THE MEETING HELD ON 11/11/2021 & 12/11/2021**

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**From :** cnpandey@iitgn.ac.in

Tue, Nov 23, 2021 11:25 AM

**Subject :** Re: Consolidated 48 EAC MOM FOR THE MEETING HELD ON 11/11/2021 & 12/11/2021

📎 1 attachment

**To :** Sundar Ramanathan <r.sundar@nic.in>

Dear Mr Sundar,

Thanks for sending the consolidated MoM for the 48th EAC held on 11th and 12th November, 2021. The same has been approved with some minor corrections and the approved MoM is sent herewith as an attached document. You may like to take further necessary action for putting this on Parivesh.

With best wishes,

C. N. Pandey,  
Chairman, EAC (IndustryI),  
MoEFCC, Govt of India.